APPENDIX A ANNEXES G-2 – G-

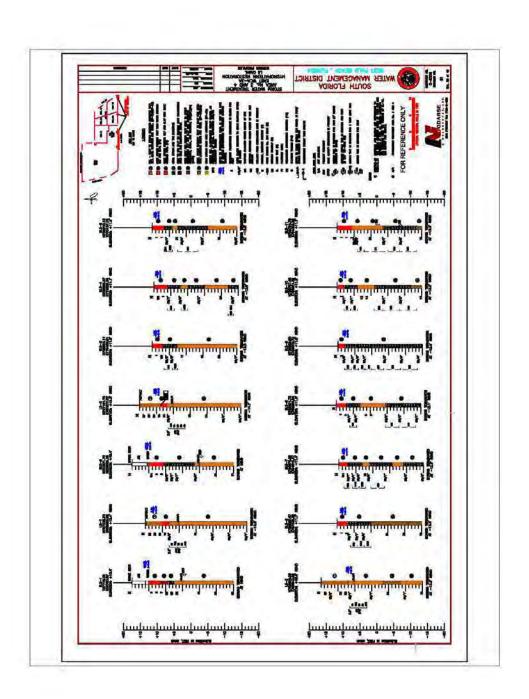
G-2: Geological Investigations South of the RedlineG-3: Geological Investigations – Green, Blue and Yellow Lines

Please refer to the pdf bookmarks for direct access to each annex





Figure G-2-1. Nodarse and Associates, 2000 Boring Map



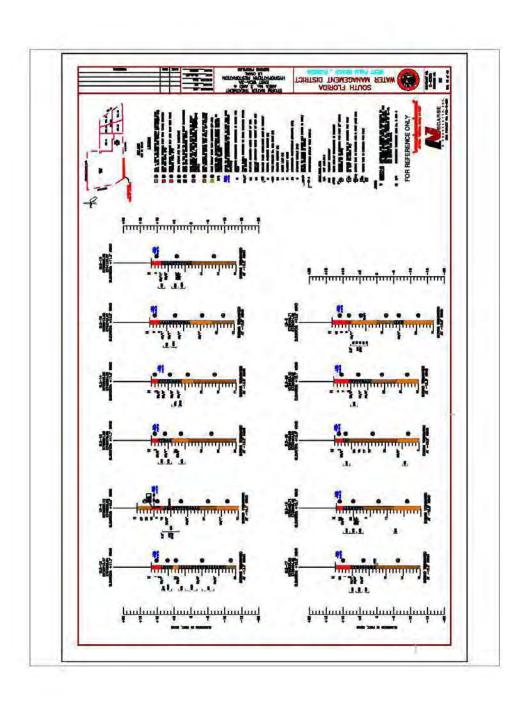




Figure G-2-2. U.S. Army Corps of Engineers 2011 Boring Map

DRI	LLING	LOG	South Atlantic		LLAT	ion ville D	1444	OF 2 SHE	
1. PRO	-0.0000	200	South Atlantic	7.0	11111111		strict or Bit See Remarks	OF 2 SHE	(A)()
Jan Gara		RP WCA	A 3 DECOMP Part 2				SYSTEM/DATUM HORIZONTAL	VERTICAL	-
			ed Pump Station				e FLE (U.S. Ft.) NAD83	NAVD88	9
2. BOR	ING DESIG	NATION	LOCATION COORDINATES	11. 1				AUTO HAMMER	
	P11-DCC				Fail	ing 15		MANUAL HAME	
2007/12/2007	LING AGE		S - CESAM	12. 1	OTAL	SAMP	LES DISTURBED	UNDISTURBED	פט)
	E OF DRIL			13. 1	OTAL	NUMB	ER CORE BOXES 1		
	harlie Bro			1		11.3 7000	ROUND WATER 9.0 Ft.		
×	CTION OF VERTICAL INCLINED	BORING	DEG. FROM BEARING VERTIGAL		0.31	BORING	STARTED	03-15-1	700.
	KNESS OF	OVERB	OURDEN N/A	16.	LEVA	TION T	OP OF BORING 16.6 Ft.	1 03-13-1	
7. DEP	TH DRILLE	D INTO	ROCK N/A				VERY FOR BORING 69 %		
	AL DEPTH	AF BAB		18. 5			AND TITLE OF INSPECTOR		
8. 101	AL DEPTH	T I	22.7 Ft.	1	_	_	itzharris, Geologist		-
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	RE	BOX OR	ROD OR UD	REMARKS	BLOWS/ 0.5 FT.	H-VAL UE
16.6	0.0						16.6	- 5.1	
			FILL, fine grained sand with some fine and coarse grained gravel, trace clay.				T	8	
		***	2.5YR 6/2 pale red	73			SPT Sampler	15	2.4
		₩				1 1	15.1	16	31
		₩			1	1 1	-10.1	4	П
		XXX		60		ш	SPT Sampler	7	
V 8 W				1	1	ш	100 X X X X X X X X X X X X X X X X X X	9	16
13,0	3.0	 	SAND, clayey, some fine gravel; trace silt,	=	+	1	13.6	5	۰
			5Y 4/1 dark gray (SC)	0.0		Ш	ant a wall	_	
	-			-80	1	ш	SPT Sampler	_	8
	2				-		12.1	3	
	2			115		ш	100 100	3	
				73	5.1	ш	SPT Sampler	3	8
10.6	6.0					1 1	10.6	5	n
		1001	CLAY, organic-L, moist, organic soil with calcareous sand and gravel particles.					2	
	E .	18891	5Y 2.5/1 black (OL)	87	0	1 1	SPT Sampler	t - t	5
9.1	7.5	[jijiji]					9.1	4	2
		199	SAND, clayey, moist, calcareous sand and gravel fragments, 7.5YR 2.5/1 black (SC)	-		1		WOH	-
	5		graver tragitients, 1,31 K 2.3/1 black (SC)	63	3		SPT Sampler	4	
							7.6	1	2
7.4	- ne			-	+	1	1.0	2	
7.1	9.5	199	CLAY, lean, moist, some calcareous grave	el: 95			SPT Sampler	-	
100		1//	little organics, 10YR 4/1 dark gray (CL)	3.			100 AC 9 AC	4	5
6.1	10.5	100	SAND, clayey, trace gravel, trace silt,	-	+	-	6.1		
	-		2.5Y 6/1 gray (SC)	la de			ALCONOMIC TO	2	
				87			SPT Sampler	-	6
4.6	12.0		SAME oilly some accordance		1		4.6	4	n
		HH	SAND, silty, some coarse gravel, 2.5Y 6/1 gray (SM)					2	
		HHI		40	2		SPT Sampler	- 4	20
3.1	13.5						3.1	16	21
			LIMESTONE, fossiliferous, weathered,	-1-			4 x 5-1/2"		71
			moderately fractured, vuggy, glaconitic staining; some clay infills, 5Y 8/1 white	66		XROD	DT = 9 mins		
- 54		田田		4	1	32	HP = 200 psi DFR = 100 %		
-	ORM 18	20		_1	1_	1	(Continued)		-

DR	ILLING	LOC	(Cont. Sheet)	100	ksonville	Distr	ict		SHEET 2	HEETS
PROJEC		10.54	GEGGAC E.V.A	10.55	INATE S			2400H 1877 FORDSON WILLIAM 188	VERTICAL	
_			DECOMP Part 2	_	te Plane,	_	_		NAVD88	-
	ON COORD	2 100	26,372	100000	TION TO	OFE	ORIN	u .		
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERI		REC.	BOX OR SAMPLE	ROD	REMARKS	BLOWS/ 0.5 FT.	N-VALUE
				1	65		RQD 32	4 x 5-1/2" DT = 9 mins HP = 200 psi DFR = 100 %		
	Vessilinios				40	BOX 1	ROD 11	4 x 5-1/2" DT = 5 mins HP = 200 psi DFR = 70 %		
-6.1	22.7		NOTES: 1. USACE Jacksonville is the cust these original files. 2. Soils are field visually classified accordance with the Unified Soils Classification System. 3. Grout					-6.1. 140# hammer w/30" drop used 2 0' split spoon (1-3/8" I,D x 2" Abbreviations: WOH = Weight of Hammer. DT = Drill Time. HP = Hydraulic Pressure. DFR = Drill Fluid Return.	(with	

Boring Designation CP11-DCOMP-CB-0037 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS PROJECT D. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 C&SF CERP WCA 3 DECOMP Part 2 VERTICAL L-4 South, Proposed Pump Station Alternate NAVD88 MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 710,839 Y = 726,167 CP11-DCOMP-CB-0037 Failing 1500 MANUAL HAMMER DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES 0 Corps of Engineers - CESAM NAME OF BRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER 8.3 Ft. DIRECTION OF BORING BEARING DEG. FROM VERTICAL STARTED COMPLETED VERTICAL INCLINED 15. DATE BORING 03-22-11 03-22-11 16. ELEVATION TOP OF BORING 20.0 Ft. 6. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING 61 % 7. DEPTH DRILLED INTO ROCK SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 20.7 Ft. Michael Fitzhamis, Geologist SAMPLE BLOWS/ 0.5 FT. ROD DEPTH CLASSIFICATION OF MATERIALS REMARKS ELEV. 20.0 0.0 20.0 FILL, gravelly, trace organics; trace clay, 10 trace roots; some shell fragments, 5YR 7/1 light gray 24 67 SPT Sampler 40 16 18.5 From El. 18.5 to 14.0 Ft., sandy, trace organics; trace shell fragments, 7.5YR 4/I dark gray 4 53 SPT Sampler 6 8 17:0 9 67 SPT Sampler 10 23 13 15.5 11 87 SPT Sampler 15 36 21 14.0 From El. 14.0 to 12.5 Ft., gravelly, some silt, 13 7.5YR 5/2 brown 67 SPT Sampler 10 22 12 12.5 From El. 12.5 to 11.0 Ft. sandy. 5 10YR 5/1 gray Ö SPT Sampler 6 12 6 11.0 SAND, clayey, trace gravel; some shell fragments, 10YR 7/1 light gray (SC) CLAY, organic-L, low plasticity, some sand. 9 08 SPT Sampler 2 -10 4 10YR 2/1 black (OL) 10YR 27 black (OL) SAND, silty, some shell fragments, 10YR 7/2 light gray (SM) CLAY, organic-H, some fibrous material, 5YR 2.5/2 dark reddish brown (OH) 2 -100 SPT Sampler 2 4 2 12.0 0.8 SAND, silty, 10YR 2/2 very dark brown (SM) woh 100 SPT Sampler Woh 0 woh 6.5

2 SAND, clayey, some gravel and silt; some shell fragments; trace organics, 10YR 5/2 grayish brown (SC) 80 SPT Sampler 7 7 50 SAJ FORM 1836 JUN 02 (Continued)

DRILLING I	LOG (Cont. Sheet)	Jackso		Distr	ict		EET 2 2 SHEETS
PROJECT	A Company (C.)	COGRDINA	TE S	STE	TAGN		
	CA 3 DECOMP Part 2	State P	_	_			D88
X = 710,839		ELEVATION		OFE	ORIN	a l	
X=110,639 1	(≈726,167	20.0 Ft		ww			- a
ELEV. DEPTH	CLASSIFICATION OF MATE	ERIALS	REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 0.5 FT.
			69			SPT Sampler	4 50/0.3'
1.9 18.1			Ô			Advanced Boring	
	LIMESTONE, moderately hard, it fractured, vuggy, 10YR 7/1 light	moderately gray	100	вох	RQD 42	4 x 5-1/2" DT = 11 mins HP = 200 psi DFR = 90 %	
	NOTES. 1. USACE Jacksonville is the crithese original files. 2. Soils are field visually classification accordance with the Unified Soi Classification System. 3. Grout	ied in				140# hammer w/30" drop used with 2.0" split spoon (1-3/8" I.D. x 2" O.D.). Abbreviations: WOH = Weight of Hammer. DT = Drill Time. HP = Hydraulic Pressure. DFR = Dnill Fluid Return.	



Figure G-2-3. U.S. Army Corps of Engineers 2011 Boring Map

Boring Designation CP11-DCOMP-CB-0011 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS PROJECT D. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 C&SF CERP WCA 3 DECOMP Part 2 VERTICAL L-5 Canal Plug, Proposed Pump Station NAVD88 LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 775,757 Y = 727,006 CP11-DCOMP-CB-0011 Failing 1500 MANUAL HAMMER RILLING AGENCY DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM 0 NAME OF BRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER 7.0 Ft. DIRECTION OF BORING BEARING DEG. FROM STARTED COMPLETED VERTICAL INCLINED 15. DATE BORING 03-22-11 03-22-11 16. ELEVATION TOP OF BORING 13.4 Ft. 6. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 27.9 Ft. Michael Fitzhamis, Geologist SAMPLE BLOWS/ 0.5 FT. ROD DEPTH CLASSIFICATION OF MATERIALS REMARKS ELEV. 13.4 0.0 13.4 FILL, sandy, some gravel; trace roots, 3 7.5YR 5/1 gray 100 50 SPT Sampler 11.9 11.9 SAND, clayey, some gravel; some shell fragments, 10YR 6/1 gray (SC) 15 80 SPT Sampler 23 40 17 10.4 14 100 SPT Sampler 16 32 16 8.9 36 53 SPT Sampler 16 33 17 67 SPT Sampler 14 6 100 SPT Sampler 8 19 11 28 53 SPT Sampler 24 30 -10 6 10.5 2.9 GRAVEL, silty, some shell fragments, 10YR 6/2 light brownish gray (GM) 8 47 SPT Sampler 7 17 10 12.0 1.4 SAND, silty, some shell fragments, 11 2.5Y 7/1 light gray (SM) 67 SPT Sampler 5 8 3 -0.1 -0.1 GRAVEL, silty, trace clay; some organics; some shell fragments, 7.5YR 5/1 gray (GM) 2 27 SPT Sampler 2 2 16 SAJ FORM 1836 JUN 02 (Continued)

DR	ILLING	LOC	(Cont. Sheet)	Jacks	ATION onville	Distr	ict		SHEET 2	EETS
PROJEC	т			COORDIN		-		UM HORIZONTAL VI	ERTICAL	
C&S	F CERP V	VCA 3	DECOMP Part 2	State	Plane,	FLE	(U.S.	Ft.) NAD83	NAVD88	
	ON COORD			ELEVATION		OF E	ORIN	ā		
X = '	775,757	Y = 7	27,006	13,4 8	it.	_	_			_
ELEV.	ОЕРТН	LEGEND	CLASSIFICATION OF MATERI	ALS	REC.	SAMPLE	ROD OR UD	REMARKS	BLOWS/ 0.5 FT.	N-VALUE
		121			7			SPT Sampler	1	2+
-3.1	16.5		CLAY, organic-H, trace gravel; trac	e sand;				-2.0	1/8R'	
			some shell fragments, 2,5Y 3/1 ve gray (OH)	ry dark	40	Ш		SPT Sampler	woh	0
-4.6	18.0		GRAVEL, silty, some organics; sor	ne shell	-			-4.6		
		1111	fragments, 2.5Y 3/3 dark olive brown		150			0.0016	<u>-4</u> -	
-5.6	19.0		SAND, clayey, some gravel; some fragments, 2.5Y 7/3 pale yellow (8	shell GC)	33			SPT Sampler -6.1	-2	3
					14				5	
	40.4				33			SPT Sampler	9	21
-7.6	21.0		SAND all to a second for second	Ener.				-7.6	12	2,1
	- 4	HH	SAND, silty, some shell fragments clay, 5Y 8/1 white (SM)	trace				W	4	
		Hill			20			SPT Sampler	- 6	9
							δE	-9.1	3	
-10.0	23.4				56			SPT Sampler	50/0.4	
-14.5	27.9		LIMESTONE, fossiliferous, moder vuggy, 7.5YR 7/1 light gray		57	BOX 1	RQD 8	4 x 5-1/2" DT = 8 mins HP = 200 psi DFR = 75 %		
			NOTES: 1. USACE Jacksonville is the cust these original files. 2. Soils are field visually classified accordance with the Unified Soils Classification System. 3. Grout					140# hammer w/30" drop used w 2.0' split spoon (1-3/8" I.D. x 2" o Abbreviations: WOH = Weight of Hammer. DT = Drill Time. HP = Hydraulic Pressure. DFR = Drill Fluid Return.	with D.D.)	

Boring Designation CP11-DCOMP-CB-0012 NOISIVIO NSTALLATION SHEET DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS D. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 VERTICAL C&SF CERP WCA 3 DECOMP Part 2 L-5 South NAVD88 ORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 774,031 Y = 726,857 CP11-DCOMP-CB-0012 Failing 1500 MANUAL HAMMER DRILLING AGENCY DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER 7.3 Ft. DIRECTION OF BORING BEARING DEG. FROM STARTED COMPLETED VERTICAL INCLINED 15. DATE BORING 03-19-11 03-19-11 16. ELEVATION TOP OF BORING 13.7 Ft. 6. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING 59 % 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 22.9 Ft. Michael Fitzhamis, Geologist SAMPLE BLOWS/ 0.5 FT. ROD DEPTH CLASSIFICATION OF MATERIALS REMARKS ELEV. 13.7 13.7 0.0 FILL, sandy, some gravel, trace clay and shells, 2.5Y 6/2 light brownish gray 15 SPT Sampler 23 43 20 12.2 9 60 SPT Sampler 9 18 9 10.7 5 34 58 SPT Sampler 84 50 9.2 9.2 SAND, silty, some shell fragments, 8.8 - 4.9 3 2.5Y 6/2 light brownish gray (SM)

CLAY, organic-H, some shell fragments,
2.5Y 2.5/1 black (OH) 57 SPT Sampler 4 9 5 60 CLAY, fat, trace sand, 2.5Y 2.5/1 black (CH) 2 6.5 CLAY, organic-H, trace sand and gravel trace shells, 2.5Y 2.5/1 black (OH) 2 100 SPT Sampler 4 2 5 63 SPT Sampler 5 554 5.0 CLAY, lean, trace gravel, 2.5Y 5/1 gray (CL) LIMESTONE, fossiliferous, vuggy, 4 x 5-1/2" DT = 11 mins HP = 200 psi 105 96 10YR 7/1 light gray 38 DFR = 40 % -10 At El. 3.7 Ft., highly weathered, 10YR 6/3 pale brown 4 x 5-1/2" DT = 9 mins 32 BOX ROD HP = 200 psi DFR = 40 % 0 4 x 5-1/2" DT = 5 mins HP = 200 psi DFR = 5 % ROE 22 0 SAJ FORM 1836 JUN 02 (Continued)

_			(Cont. Sheet)	Jack	sonville	Distr	ict	OF	EET 2 2 SHEETS
PROJEC	3 3 J. W. A.		Caccine 2 m. 3		INATE ST				
_	ON COORD		DECOMP Part 2		e Plane,	_	_		/D88
	774,031		26,857	13.7		UF.B	ORIN		
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MAT	ERIALS	REC.	BOX OR SAMPLE	ROD OR OB	REMARKS	6.5 FT.
					22		ROD 0	4 x 5-1/2" DT = 5 mins HP = 200 psi DFR = 5 %	
	Hinny Manifestory				31	вох 1	ROD 27	4 x 5-1/2" DT = 5 mins HP = 200 psi DFR = 5 %	
19.2	22.9		NOTES: 1. USACE Jacksonville is the others original files. 2. Solls are field visually classifunction accordance with the Unified Social Classification System. 3. Grout					140# hammer w/30" drop used with 2.0" split spoon (1-3/8" I.D. x 2" O.D.). Abbreviations: DT = Dnill Time. HP = Hydraulic Pressure. DFR = Dnill Fluid Return.	

Boring Designation CP11-DCOMP-CB-0014 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS D. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 VERTICAL C&SF CERP WCA 3 DECOMP Part 2 L-5 South NAVD88 ORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 770,021 Y = 726,834 CP11-DCOMP-CB-0014 Failing 1500 MANUAL HAMMER DRILLING AGENCY DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM 0 NAME OF BRILLER 13. TOTAL NUMBER CORE BOXES 2 Charlie Brown 14. ELEVATION GROUND WATER Not Encountered DIRECTION OF BORING BEARING DEG. FROM VERTICAL COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 03-18-11 03-18-11 16. ELEVATION TOP OF BORING 14.7 Ft. 6. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING 70 % 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 21.5 Ft. Michael Fitzhamis, Geologist SAMPLE BLOWS/ 0.5 FT. ROD DEPTH CLASSIFICATION OF MATERIALS REMARKS ELEV. 14.7 14.7 0.0 FILL, sandy, mainly silty sand with some gravel, trace clay, 2.5Y 7/1 light gray 45 SPT Sampler 48 76 28 13.2 7 53 SPT Sampler 13 26 13 117 SAND, clayey, low plasticity, some silt and gravel, 2.5YR 5/1 reddish gray (SC) 19 50 100 SPT Sampler 9.9 4.5 10.2 SAND, silty, some clay and gravel, 10YR 6/2 light brownish gray (SM) LIMESTONE, tossiliferous, moderately hard, SPT Sampler 50/0.31 weathered, slightly fractured, vuggy, 7.5YR 7/1 light gray 4 x 5-1/2" DT = 14 mins HP = 300 psi DFR = 100 % ROD 57 0 6.9 At El. 5.9 Ft., highly fractured, 7.5YR 8/1 white 30) 4 x 5-1/2" DT = 11 mins HP = 200 psi DFR = 80 % -10 ROD 22 4 x 5-1/2" DT = 8 mins HP = 200 psi DFR = 80 % RQD 62 SAJ FORM 1836 JUN 02 (Continued)

DRILLIN	IG LOC	(Cont. Sheet)	Jacks	onville	Distr	rict		OF / SI	EETS	
PROJECT		Carolina di s	COORDIN				The state of the s	Activities and the second seco		
		DECOMP Part 2	_	Plane,				NAD83 NAVD88		
X = 770,02		26,834	ELEVATI 14.7		OFE	ORING				
ELEV. DEPT	2	CLASSIFICATION OF MATE	- 7	REC.	SOXOR	RQD OR UD	REMARKS	BLOWS/ 0.5 FT.	N-VALUE	
	111			62	111	ROD 0	4 x 5-1/2" DT = 8 mins HP = 200 ps -1.8 DFR = 80 %	5	2	
	West the state of			28	BOX 2	ROD 0	4 x 5-1/2" DT = 6 min HP = 200 ps DFR = 0 %	Si .		
-6.8 21.5	<u>₩</u> ₩	NOTES: 1. USACE Jacksonville is the crithese original files. 2. Soils are field visually classiff accordance with the Unified Soil Classification System. 3. Grout	ied in				-6.8 140# hammer w/30" drop user 2.0' split spoon (1-3/8" I.D. x 2 Abbreviations: DT = Drill Time. HP = Hydraulic Pressure DFR = Drill Fluid Return.	d with		

Boring Designation CP11-DCOMP-CB-0016 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS D. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 VERTICAL C&SF CERP WCA 3 DECOMP Part 2 NAVD88 ORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 766,059 Y = 726,798 CP11-DCOMP-CB-0016 Failing 1500 DRILLING AGENCY DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM NAME OF BRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER DIRECTION OF BORING BEARING DEG. FROM COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 03-18-11 03-18-11 16. ELEVATION TOP OF BORING 15.3 Ft. 6. THICKNESS OF OVERBURDEN N/A 7. DEPTH DRILLED INTO ROCK SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 16.0 Ft. Michael Fitzhamis, Geologist SAMPLE ROD DEPTH CLASSIFICATION OF MATERIALS REMARKS ELEV. 15,3 0.0 15.3 FILL, sandy, low plasticity, some clay, some gravel, 5Y 4/1 dark gray 18 SPT Sampler 23 38 15 13.8 9 67 SPT Sampler 13 30 17 12.3 12.3 SAND, clayey, medium plasticity, some gravel; little slit; little shells; some organics, 10YR 5/1 gray (SC) 13 100 SPT Sampler 10 22 12 10.8 At El. 10.8 Ft., trace organics, 10YR 5/2 grayish brown 13 87 SPT Sampler 13 21 8 CLAY, fat, gravelly; some coarse sand; shell fragments; some fibrous material, 10YR 2/1 black (CH) 4 8.7 67 SPT Sampler 4 CLAY, organic-H. 10YR 2/1 black (OH) 6 2 From El. 7.8 to 4.8 Ft., moist, trace 4 calcareous gravel. 10YR 2/2 very dark brown 100 SPT Sampler 1 2 1 1 53 SPT Sampler 3 5 -10 2 10.5 CLAY, fat, moist, some coarse-grained sand: some organics, 7.5YR 6/1 gray (CH) 10 63 SPT Sampler 50/0.31 LIMESTONE, fossiliferous, moderately hard. vuggy, 10YR 7/1 light gray 4 x 5-1/2" BOXROL 70 HP = 200 psi DFR = 100 % At El. 2.1 Ft., open aperture 45 SAJ FORM 1836 JUN 02 (Continued)

DRI	LLING	LOC	(Cont. Sheet)	Jacks	sonville	Distr	ict		SHEET 2	HEETS
PROJEC			Secretary Const	COORDII				2000 TO THE STREET OF STREET	RTICAL	
_			DECOMP Part 2	-	Plane				NAVD88	
	ON COORD! 66,059		26.798	15.3		OFE	ORIN	g .		
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATER		WEC.	BOX OR SAMPLE	ROD OR OD	REMARKS	BLOWS/	N-VALUE
+0.7	16.0	莊			70	_	RQD 45	4 x 5-1/2" HP = 200 psi -0.7 DFR = 100 %		Ĩ
	DRM 18		NOTES: 1. USACE Jacksonville is the custhese original files. 2. Soils are field visually classific accordance with the Unified Soils Classification System. 3. Grout	d in				140# hammer w/30" toop used w. 2.0" split spoon (1-3/8" I.D. x 2" C Abbreviations: HP = Hydraulic Pressure. DFR = Drill Fluid Return.	vith	

Boring Designation CP11-DCOMP-CB-0018 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS D. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 VERTICAL C&SF CERP WCA 3 DECOMP Part 2 L-5 South NAVD88 ORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 761,968 Y = 726,749 CP11-DCOMP-CB-0018 Failing 1500 MANUAL HAMMER DRILLING AGENCY DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM 0 0 NAME OF BRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER 7.4 Ft. DIRECTION OF BORING BEARING DEG. FROM VERTICAL STARTED COMPLETED VERTICAL INCLINED 15. DATE BORING 03-18-11 03-18-11 16. ELEVATION TOP OF BORING 14.8 Ft. 6. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING 61 % 7. DEPTH DRILLED INTO ROCK SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 13.7 Ft. Michael Fitzhamis, Geologist SAMPLE BLOWS/ ROD DEPTH CLASSIFICATION OF MATERIALS REMARKS ELEV. 14.8 0.0 14.8 FILL, sandy, some gravel; trace roots; trace 27 clay and shell fragments, 7.5YR 6/1 gray 86 SPT Sampler 48 98 50 13.3 18 53 SPT Sampler 35 49 11.8 SAND, clayey, moist, some organic soil; some silt and gravel, 7.5YR 5/1 gray (SC) 23 100 SPT Sampler 18 684 10.7 50/0.1 10.4 4.4 LIMESTONE, vuggy, 10YR 7/2 light gray At El. 10.3 Ft., moderately fractured DT = 4 mins HP = 200 psi DFR = 75 % OXROD 27 0 CLAY, organic-H, moist, some fibrous plant material, 10YR 2/1 black (OH) 2 SPT Sampler 43 4 11 7 6.8 6.8 LIMESTONE, intensely weathered, 10YR 5/6 yellowish brown From El. 6.4 to 5.0 Ft., fossiliferous, pitted; shell fragments, 10YR 7/2 light gray 50 SPT Sampler 50/0.4 64 At El. 5.0 Ft., moderately fractured -10 DT = 9 mins HP = 200 psi DFR = 60 % BOXROD 1 33 68 140# hammer w/30" drop used with 2.0' split spoon (1-3/8" I.D. x 2" O.D.). NOTES 1. USACE Jacksonville is the custodian for SAJ FORM 1836 JUN 02 (Continued)

DRILLING	LOG	(Cont. Sheet)	Jacks	onville	Distr	ict		OF P SHEET	
ROJECT	77		COORDIN				UM HORIZONTAL	VERTICAL	
	CA3D	DECOMP Part 2	7 7 7 7 7	Plane.				NAVD88	
LOCATION COORD		No. of the last of	ELEVATION		OFB	ORING	3		
X = 761,968	Y = 726	5,749	14.8	1	2.5	_			
ELEV. DEPTH	LEGEND	CLASSIFICATION OF MATERIA	ALS	REC.	SAMPLE	ROD OR UD	REMAR	Ks 018	N-VAL UE
		these original files,		-6	1 1	1	Abbreviations:		1
		2. Soils are field visually classified accordance with the Unified Soils Classification System. 3. Grout	in				Abbreviations DT = Drill Time HP = Hydraulic Pressur DFR = Drill Fluid Return		

Boring Designation CP11-DCOMP-CB-0020 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 VERTICAL C&SF CERP WCA 3 DECOMP Part 2 NAVD88 L-5 South ORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 757.988 Y = 726,710 CONTRACTOR FILE NO CP11-DCOMP-CB-0020 Failing 1500 MANUAL HAMMER RILLING AGENCY DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAJ 0 NAME OF BRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER Not Encountered DIRECTION OF BORING BEARING DEG. FROM VERTICAL COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 03-17-11 03-17-11 16. ELEVATION TOP OF BORING 14.4 Ft. 6. THICKNESS OF OVERBURDEN N/A 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 17.2 Ft. Michael Fitzhamis, Geologist SAMPLE ROD DEPTH CLASSIFICATION OF MATERIALS REMARKS ELEV. 14.4 14.4 0.0 FILL, sandy, some gravel, trace clay, shell fragments, 5Y 7/1 light gray LIMESTONE, moderately hard, weathered, 83 SPT Sampler 27 13.8 0.6 13.8 30/0.1 vuggy, 10YR 6/1 gray DT = 5 mins 44 HP = 200 psi DFR = 100 % 19 12.0 12.0 SAND, silty, some gravel; little clay, 5Y 7/1 light gray (SM) 24 73 SPT Sampler 24 47 23 10.5 17 30 63 SPT Sampler 49 -5 19 90 5.7 6 CLAY, organic-H, moist, trace clay, 5Y 2.5/1 black (OH) 33 2 SPT Sampler 2 7.5 2 7.1 SAND, silty, 5Y 5/2 olive gray (SM) 60 SPT Sampler 12 32 20 6.0 14 53 SPT Sampler 4 7 3 4.5 10 8 67 SPT Sampler 6 24 18 30 43 47 SPT Sampler 32 39 2 73 SPT Sampler 5 43 38 0.0 LIMESTONE, fossiliferous, moderately hard, 32 vuggy, some gravel; trace clay; low SAJ FORM 1836 JUN 02 (Continued)

DR	LLING	LOC	(Cont. Sheet)	Jacks	onville	Distr	ict		OF / SI	EETS
PROJE	T			COORDIN	ATE S	YSTE	TAOLIV	The state of the s	VERTICAL	
_			DECOMP Part 2		Plane	_			NAVD88	
	ON COORD			ELEVATI		OFE	ORIN	3		
X=	757,988		26,710	14.4	1	16.40			- 72.	w
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATER	IALS	REC.	BOXOR	ROD OR UD	REMARKS	BLOWS/	N-VALUE
-2.8	17.2		cohesion; shell fragments, 10YR 3	5/1 gray	32	BOX 1	ROD 19	DT = 15 min HP = 200 ps DFR = 100 %	let .	
			NOTES: 1. USACE Jacksonville is the custhese original files. 2. Soils are filed visually classifier accordance with the Unified Soils Classification System. 3. Grout					140# hammer w/30" drop used 2.0" split spoon (1-3/8" I.D. x 2" Abbreviations: DT = Drill Time. HP = Hydraulic Pressure. DFR = Drill Fluid Return.	with O.D.).	

Boring Designation CP11-DCOMP-CB-0022 DIVISION NSTALLATION SHEET DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS D. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 VERTICAL C&SF CERP WCA 3 DECOMP Part 2 L-5 South NAVD88 ORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 754,072 Y = 726,667 CP11-DCOMP-CB-0022 Failing 1500 MANUAL HAMMER DRILLING AGENCY DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER Not Encountered DIRECTION OF BORING DEG. FROM VERTICAL BEARING STARTED COMPLETED VERTICAL INCLINED 15. DATE BORING 03-17-11 03-17-11 16. ELEVATION TOP OF BORING 14.3 Ft. 6. THICKNESS OF OVERBURDEN N/A 71 % 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 15.3 Ft. Michael Fitzhamis, Geologist SAMPLE BLOWS/ H-VALUE ROD DEPTH CLASSIFICATION OF MATERIALS REMARKS ELEV. 14.3 14.3 0.0 FILL, sandy, trace clay; some gravel; trace shells, 10YR 6/1 gray 17 80 SPT Sampler 40 54 24 12.8 16 60 SPT Sampler 20 38 18 113 At El. 11.3 Ft., low plasticity 50 SPT Sampler 17 10.7 10.7 LIMESTONE, fossiliferous, weathered, 50/0.1 vuggy, some clay infills; some oxidation staining, 2.5Y 6/1 gray 4 x 5-1/2" DT = 19 mins HP = 200 psi DFR = 100 % BOXROD 29 0 6.5 CLAY, organic-H, some fibrous plant material, 5Y 2.5/1 black (OH) 100 SPT Sampler 1 2 1 5.0 1 10 93 SPT Sampler 1 2 1 10.8 LIMESTONE, fossiliferous, highly weathered, moderately fractured, fractured between 11.4 to 12.0 ft depth, 10YR 7/2 light gray DT = 18 mins HP = 200 psi DFR = 60 % BOXROD 82 51 SAJ FORM 1836 JUN 02 (Continued)

DRILLING	LOG (Cont. Sheet)	Jacks	onville	Distr	ict		SHEET 2	
PROJECT		COORDIN		_		UM HORIZONTAL V	ERTICAL	
C&SF CERP W	/CA 3 DECOMP Part 2	State	Plane	FLE	(U.S.	Ft.) NAD83	NAVD88	
LOCATION COORDS		ELEVATI		OF E	ORIN	G .		
X = 754,072	Y = 726,667	14.3	t.	Contr			1,577	an .
ELEV. DEPTH	CLASSIFICATION OF MA	ATERIALS	REC.	SAMPLE	ROD OR UD	REMARKS	BLOWS, 0.6 FT.	N-VALUE
-10 153 V	At El0.7 Ft., weak cementa	tion	82			-t.0		
	NOTES: 1. USACE Jacksonville is the these original files. 2. Solls are filed visually class accordance with the Unified Sclassification System. 3. Grout	e custodian for				140# hammer w/30" drop used v 2.0' split spoon (1-3/8" I.D. x 2" of Abbreviations: DT = Drill Time. HP = Hydraulic Pressure. DFR = Drill Fluid Return.	with O D)	

Boring Designation CP11-DCOMP-CB-0024 DIVISION NSTALLATION SHEET DRILLING LOG South Atlantic Jacksonville District OF SHEETS D. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 VERTICAL C&SF CERP WCA 3 DECOMP Part 2 L-5 South NAVD88 BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 750,077 Y = 726,617 CP11-DCOMP-CB-0024 Failing 1500 MANUAL HAMMER DRILLING AGENCY DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER 12.4 Ft. DIRECTION OF BORING BEARING DEG. FROM VERTICAL STARTED COMPLETED VERTICAL INCLINED 15. DATE BORING 03-16-11 03-17-11 16. ELEVATION TOP OF BORING 14.3 Ft. 6. THICKNESS OF OVERBURDEN N/A 67 % 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 9.7 Ft. Michael Fitzhamis, Geologist SAMPLE BLOWS/ 0.5 FT. ROD CLASSIFICATION OF MATERIALS REMARKS ELEV. DEPTH 14.3 14.3 0.0 FILL, gravelly, some sand; strong HCL reaction, 5Y 7/1 light gray 26 50 67 SPT Sampler 12.8 Advanced Boring 113 SAND, silty, strong reaction with HCI, 75 SPT Sampler 50 10.8 10.8 2.5Y 7/1 light gray (SM) LIMESTONE, moderately hard, vuggy, 2.5Y 8/4 pale yellow -5 8.8 5.5 4 x 5-1/2" CLAY, organic-H, some calcareous sand and gravel, 2.5Y 2.5/1 black (OH) RQD 20 DT = 11 mins HP = 200 psi 48 1 BOX DFR = 70 % 5.9 - 8.4 5.8 LIMESTONE, 2.5Y 7/2 light gray 4 x 5-1/2" DT = 8 mins HP = 200 psi ROD 80 28 4.6 4.6 97 DFR = 100 % -10 140# hammer w/30" drop used with 2.0' split spoon (1-3/8" I.D. x 2" O.D.). NOTES: 1. USACE Jacksonville is the custodian for Abbreviations: these original files. DT = Drill Time. HP = Hydraulic Pressure. 2. Soils are field visually classified in accordance with the Unified Soils DFR = Drill Fluid Return. Classification System. 3. Grout

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SAJ FORM 1836 JUN 02

Boring Designation CP11-DCOMP-CB-0026 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS D. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 VERTICAL C&SF CERP WCA 3 DECOMP Part 2 NAVD88 ORING DESIGNATION MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 746,190 Y = 726,559 CP11-DCOMP-CB-0026 Failing 1500 DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM NAME OF BRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER DIRECTION OF BORING DEG. FROM VERTICAL COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 03-19-11 03-19-11 16. ELEVATION TOP OF BORING 14.7 Ft. 6. THICKNESS OF OVERBURDEN N/A 7. DEPTH DRILLED INTO ROCK SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 12.2 Ft. Michael Fitzhamis, Geologist BOX OR ROD CLASSIFICATION OF MATERIALS ELEV. DEPTH REMARKS 14.7 147 0.0 FILL, sandy, trace gravel; trace shell 8 fragments; some gravel, 5Y 4/1 dark gray SPT Sampler 16 35 19 13.2 11 67 SPT Sampler 24 48 24 117 21 50 75 SPT Sampler 10.2 11 80 SPT Sampler 5 8 3 CLAY, organic-H, some fibrous material trace calcareous gravel, 2.5Y 2.5/1 black 53 SPT Sampler 8 SAND, silty, some clay; some organics; little gravel; little shell fragments. 2.5Y 3/1 very 3 dark gray (SM) 63 SPT Sampler 50 9.0 LIMESTONE, fossiliferous, moderately hard, vuggy, 7.5YR 6/1 gray At El. 5.4 Ft., moderately fractured -10 4 x 5-1/2" At El. 4.4 Ft., highly fractured 100 BOXROD DT = 10 mins HP = 200 psi DFR = 90 % 140# hammer w/30" drop used with 2.0' split spoon (1-3/8" I.D. x 2" O.D.). 1. USACE Jacksonville is the custodian for Abbreviations: DT = Drill Time. HP = Hydraulic Pressure these original files. Soils are field visually classified in accordance with the Unified Soils Classification System. DFR = Drill Fluid Return

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(Continued)

SAJ FORM 1836 JUN 02

DRILLING L	OG (Cont. Sheet)	Jacks	onville	Distr	ict		OF / SHEET	
PROJECT		COORDIN				HORIZONTAL	VERTICAL	
	A 3 DECOMP Part 2				(U.S. Ft.)	NAD83	NAVD88	
X = 746,190 Y	ates = 726,559	ELEVATION 14.7 F		OF B	ORING			
	CLASSIFICATION OF MATERI	7	REC.	AMPLE	ROD OR UD	REMARKS	MACON STATE OF THE	N-VAL UE
	3. Grout			99			go	

Boring Designation CP11-DCOMP-CB-0028 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS D. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 VERTICAL C&SF CERP WCA 3 DECOMP Part 2 NAVD88 L-5 South ORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 742,303 Y = 726,513 CP11-DCOMP-CB-0028 Failing 1500 MANUAL HAMMER UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM NAME OF BRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER Not Encountered DIRECTION OF BORING DEG. FROM VERTICAL STARTED COMPLETED VERTICAL INCLINED 15. DATE BORING 03-21-11 03-21-11 16. ELEVATION TOP OF BORING 14.5 Ft. 6. THICKNESS OF OVERBURDEN N/A 7. DEPTH DRILLED INTO ROCK SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 12.6 Ft. Michael Fitzhamis, Geologist SAMPLE BLOWS/ ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 14.5 14.5 0.0 FILL, gravelly, 10YR 7/2 light gray 18 40 SPT Sampler 20 34 14 13.0 12 60 SPT Sampler 13 14 At El. 11.6 Ft., trace organics; trace clay LIMESTONE, moderately hard, very wide aperture, vuggy, 7.5YR 5/1 gray 50/0.3 100 SPT Sampler 4 x 5-1/2" DT = 5 mins HP = 200 psi BOXROD 80 DFR = 80 % 9.3 Advanced Boring 8.8 5.7 8.8 CLAY, organic-H, some calcareous gravel; 4 trace clay, 10YR 2/2 very dark brown (OH) 47 SPT Sampler 2 4 2 LIMESTONE, intensely weathered, some 6 organics and fibrous material. 2,5YR 5/2 weak red 43 SPT Sampler 23 73-50/0.4 5.9 At El, 5.9 Ft., fossiliferous, firm, vuggy, some clay infilling, 7.5YR 5/1 gray -10 4 x 5-1/2" DT = 15 mins HP = 200 psi DFR = 100 % 63 44 12.6 1.9 140# hammer w/30° drop used with NOTES 2.0' split spoon (1-3/8" I.D. x 2" O.D.), 1. USACE Jacksonville is the custodian for Abbreviations: these original files. DT = Drill Time. HP = Hydraulic Pressure. DFR = Drill Fluid Return. Soils are field visually classified in accordance with the Unified Soils (Continued) SAJ FORM 1836 JUN 02

DRILLIN	G LO	G (Cont. Sheet)	Jack	sonville	Distr	rict		OF / S	HEET
PROJECT			COORDI	NATE S	STE	MUTACIN	HORIZONTAL	VERTICAL	
		DECOMP Part 2				(U.S. Ft.)	NAD83	NAVD88	
X = 742,303			ELEVAT		OFE	ORING			
X = 142,300		26,010	19.5	_	ww.			5.4	w
ELEV. DEPT	LEGEND	CLASSIFICATION OF MATE	RIALS	REC.	SAMPL	ROD OR UD	REMARK	BLOWS/	N-VALUE
		Classification System.		110	M	20.0			T
		3. Grout							

Boring Designation CP11-DCOMP-CB-0030 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS D. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 VERTICAL C&SF CERP WCA 3 DECOMP Part 2 L-5 South NAVD88 ORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 738,282 Y = 726,446 CP11-DCOMP-CB-0030 Failing 1500 DRILLING AGENCY DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM 0 NAME OF BRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER 5.9 Ft. DIRECTION OF BORING BEARING DEG. FROM VERTICAL STARTED COMPLETED VERTICAL INCLINED 15. DATE BORING 03-21-11 03-21-11 16. ELEVATION TOP OF BORING 14.1 Ft. 6. THICKNESS OF OVERBURDEN N/A 79 % 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 14.0 Ft. Michael Fitzhamis, Geologist SAMPLE BLOWS/ 0.5 FT. ROD DEPTH CLASSIFICATION OF MATERIALS REMARKS ELEV. 14.1 0.0 14.1 FILL, sandy, some sill; trace clay; trace organics; trace shells 80 SPT Sampler 28 72 44 12.6 7 60 SPT Sampler 16 50 34 111 50 100 SPT Sampler 9.6 5 CLAY, organic-H, moist, some fibrous material (OH) 57 SPT Sampler 3 5 2 100 2 SPT Sampler 6 4 CLAY, fat, trace organics (CH) 6.6 CLAY, organic-H, low plasticity, some clay some gravel; little sand (OH) 5 69 SPT Sampler 20 70+ 50/0.3 5.3 LIMESTONE, moderately hard, vuggy, some sandy clay infills 10 4 x 5-1/2" DT = 15 mins HP = 200 psi BOXROD 65 90 DFR = 50 % 14.0 140# hammer w/30" drop used with 2.0" split spoon (1-3/8" I.D. x 2" O.D.). NOTES: SAJ FORM 1836 JUN 02 (Continued)

DRILLING LOG (Cont. Sheet)			INSTALLATION Jacksonville District					
PROJECT C&SF CERP WCA 3 DECOMP Part 2			coordinate systemidatum Horizontal Ve State Plane, FLE (U.S. Ft.) NAD83					
X = 738,282	Y = 726,446	14.1	Ft.		_			
ELEV. DEPTH	CLASSIFICATION OF MAT		REC.	BOXOR	ROD OR UD	REMAR	Ks OF	N-VAL UE
SAJ FORM 183	USACE Jacksonville is the these original files Solis are field visually class accordance with the Unified St Classification System. Groul	ified in				Abbreviations: DT = Drill Time. HP = Hydraulic Pressur DFR = Drill Fluid Return		

Boring Designation CP11-DCOMP-CB-0032 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 VERTICAL C&SF CERP WCA 3 DECOMP Part 2 NAVD88 L-5 South ORING DESIGNATION MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 734,280 Y = 726,400 CONTRACTOR FILE NO CP11-DCOMP-CB-0032 Failing 1500 MANUAL HAMMER DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAJ 0 NAME OF BRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER DIRECTION OF BORING BEARING DEG. FROM VERTICAL COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 03-21-11 03-21-11 16. ELEVATION TOP OF BORING 14.9 Ft. 6. THICKNESS OF OVERBURDEN N/A 73 % 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 25.5 Ft. Michael Fitzhamis, Geologist SAMPLE BLOWS/ ROD DEPTH CLASSIFICATION OF MATERIALS REMARKS ELEV. 14.9 14.9 0.0 FILL, gravelly, trace organics, 7.5YR 7/1 light 12 gray SPT Sampler 42 67 25 13.4 From El. 13.4 to 8,3 Ft., sandy, little gravel; trace organics, 10YR 6/2 light brownish gray 5 80 SPT Sampler 7 15 8 11.9 9 90 SPT Sampler 13 6 10.4 4 33 SPT Sampler 2 5 3 8.6 6.3 CLAY, organic-H, medium plasticity, some fibrous material, 5Y 2.5/1 black (OH) 93 SPT Sampler 5 4 SAND, clayey, wet, 10YR 6/1 gray (SC) 4 53 SPT Sampler 2 10 8 5.9 9.0 5.9 SAND, silty, wet, trace gravel, organic odor, 4 10YR 3/2 very dark grayish brown (SM) 60 SPT Sampler 5 14 -10 9 8 67 SPT Sampler 8 15 7 2.9 5 73 SPT Sampler 5 13 8 6 60 SPT Sampler 6 7 SAJ FORM 1836 JUN 02 (Continued)

DRILLING LOG (Cont. Sheet)		INSTALLATION SHEET 2 Jacksonville District OF 2 SHEET									
PROJECT C&SF GERP WCA 3 DECOMP Part 2		COORDII	COORDINATE SYSTEMIDATUM HORIZONTAL VERTICAL State Plane, FLE (U.S. Ft.) NAD83 NAVD88								
	-	_	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT	_		_	_		i N	AVD88	
	ON COORD 734,280	2 100	26,400	ELEVATI		OF B	ORIN	0			
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATER		REC.	BOX OR SAMPLE	ROD OR UD	REMAR	RKS	SLOWS/ 0.5 FT.	N-VALUE
			r l		63		Ĭi	SPT Sar	npler	3 5	12+
					53			SPT Sai	npler	7/Q,0°	8
-3.1	-3.1 18.0 IIII SAND, poorly-graded with silt, so fragments, organic odor, 2.57 6/.		me shell light	ne shell light 67			-3.1 SPT Sat	mpler	5 8		
-4.6	[A]H							-4.6		9	17
Such to the might gray (sm)			Side. To the first gray (Sim)		67			SPT Sat	mpler	7	17
					63			SPT Sal	mpler	4 3	7
					27		0 10	-7.6 SPT Sampler	mpler	3 7	10
		20			-9.1 SPT Sai	mpler	2 3 4	7			
-10.6	25.5		NOTES: 1. USACE Jacksonville is the custhese original files. 2. Soils are field visually classific accordance with the Unified Soils Classification System. 3. Grout	ed in				_10.6 140# hammer w/30" drop. 2.0" split spoon (1-3/8" I.D	used with	12.).	

Boring Designation CP11-DCOMP-CB-0034 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 VERTICAL C&SF CERP WCA 3 DECOMP Part 2 S-8 Area, Proposed Pump Station ORING DESIGNATION LOCA NAVD88 LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 730,243 Y = 726,191 CP11-DCOMP-CB-0034 Failing 1500 DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM NAME OF BRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER 8.5 Ft. DIRECTION OF BORING BEARING DEG. FROM VERTICAL COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 03-16-11 03-16-11 16. ELEVATION TOP OF BORING 15.8 Ft. 6. THICKNESS OF OVERBURDEN N/A 76 % 7. DEPTH DRILLED INTO ROCK SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 13.8 Ft. Michael Fitzhamis, Geologist SAMPLE BLOWS/ ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 15.8 15.8 0.0 SAND, silty, trace coarse grain sand and fine 4 gravel; trace organics and roots in top 6 inches, 2.5Y 4/1 dark gray (SM) 73 SPT Sampler 16 42 26 14.3 2 60 SPT Sampler 10 27 17 14 14 93 SPT Sampler 61 47 11.3 CLAY, organic-H, strong reaction with HCI, 2.5Y 2.5/1 black (OH) 3 73 SPT Sampler 3 4 1 From El. 9.9 to 8.3 Ft., trace calcareous 2 gravel 2 80 SPT Sampler 5 3 SAND, silty, some gravel, 5Y 5/1 gray (SM) 3 53 SPT Sampler 9 59 50 68 9.0 LIMESTONE, fossiliferous, moderately weathered, soft sandy pockets; vuggy, 10YR 7/1 light gray -10 DT = 11 mins BOXROD 77 HP = 200 psi DFR = 100 % 90 13.8 140# hammer w/30" drop used with 2.0' split spoon (1-3/8" I.D. x 2" O.D.). NOTES: 1. USACE Jacksonville is the custodian for SAJ FORM 1836 JUN 02 (Continued)

DRILLING LO	OG (Cont. Sheet)	Jacks	onville	Distr	ict		OF 7 SH	HEET		
PROJECT		COORDIN	_			UM HORIZONTAL	VERTICAL			
	A 3 DECOMP Part 2	State Plane, FLE (U.S. Ft.) NAD83 NAVD88								
LOCATION COORDINA		ELEVATI		OF B	ORIN	3				
X = 730,243 Y =	7	15.8	t.					_		
ELEV. DEPTH	CLASSIFICATION OF MATERIA	ALS	REC.	SAMPLE	ROD OR UD	REMARKS	BLOWS/	N-VALUE		
	these original files,		115		1	Abbreviations:				
	Soils are field visually classified accordance with the Unified Soils Classification System. Grout	in				ADDreviations DT = Drill Time, HP = Hydraulic Pressure. DFR = Orill Fluid Return.				

Boring Designation CP11-DCOMP-CB-0035 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS PROJECT D. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 C&SF CERP WCA 3 DECOMP Part 2 VERTICAL Proposed Pump Station NAVD88 LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 729,500 Y = 726,555 CP11-DCOMP-CB-0035 Failing 1500 MANUAL HAMMER DRILLING AGENCY DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM NAME OF BRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER 9.5 Ft. DIRECTION OF BORING BEARING DEG. FROM VERTICAL STARTED COMPLETED VERTICAL INCLINED 15. DATE BORING 03-16-11 03-16-11 16. ELEVATION TOP OF BORING 13.5 Ft. 6. THICKNESS OF OVERBURDEN N/A 71% 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 13.8 Ft. Michael Fitzhamis, Geologist SAMPLE BLOWS/ 0.5 FT. ROD CLASSIFICATION OF MATERIALS ELEV. DEPTH REMARKS 13.5 13.5 0.0 FILL, sandy, nonplastic, trace organics and 20 roots; some coarse grain sand and fine gravel, 10YR 4/1 dark gray 80 SPT Sampler 41 57 16 12.0 20 53 SPT Sampler 15 31 16 10.5 15 73 SPT Sampler 10 17 9.0 5 8.5 SAND, silty, wet, some gravel; trace clay, 5Y 7/1 light gray (SM) 93 SPT Sampler 7 57 50 34 58 SPT Sampler 15 65 50 6.0 7.5 6.0 LIMESTONE, fossiliferous, slightly weathered, some vugs 4 x 5-1/2" OD DT = 9 mins HP = 200 psi 92 50 At El. 5.2 Ft., slightly fractured DFR = 60 % -10 BOX 4 x 5-1/2" DT = 6 mins HP = 200 psi 50 37 DFR = 60 % -0.3 13.8 140# hammer w/30" drop used with 2.0' split spoon (1-3/8" I.D. x 2" O.D.). NOTES: 1. USACE Jacksonville is the custodian for SAJ FORM 1836 JUN 02 (Continued)

DRILLING I	LOG (Cont. Sheet)		LATION (SONVILLE	Distr	ict		OF / SI				
PROJECT			INATE S	_		UM HORIZONTAL	VERTICAL				
	CA 3 DECOMP Part 2		e Plane				NAVD88				
LOCATION COORDIN			TION TO	OF	ORIN	3					
X = 729,500	/ = 726,555 -	.[13.:	.] 13.5 Ft.								
ELEV. DEPTH	CLASSIFICATION OF	MATERIALS	REC.	SAMPLE	ROD OR UD	REMAR	CS ONS	N-VALUE			
-	these original files.		r Hri		1	Abbreviations:					
	Soils are field visually chaccordance with the Unified Classification System. Grout	assified in I Soils				DT = Drill Time, HP = Hydraulic Pressure DFR = Drill Fluid Return					

Boring Designation CP11-DCOMP-CB-0036 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS D. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 VERTICAL C&SF CERP WCA 3 DECOMP Part 2 L-4 North, Proposed Pump Station NAVD88 LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 710,800 Y = 726,372 CP11-DCOMP-CB-0036 Failing 1500 DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER 9.0 Ft. DIRECTION OF BORING BEARING DEG. FROM STARTED COMPLETED VERTICAL INCLINED 15. DATE BORING 03-15-11 03-15-11 16. ELEVATION TOP OF BORING 16.6 Ft. 6. THICKNESS OF OVERBURDEN N/A 69 % 7. DEPTH DRILLED INTO ROCK SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 22.7 Ft. Michael Fitzhamis, Geologist SAMPLE H-VALUE BLOWS/ 0.5 FT. ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 16.6 0.0 16.6 FILL, fine grained sand with some fine and 8 coarse grained gravel, trace clay, 2.5YR 6/2 pale red SPT Sampler 15 31 16 15.1 4 60 SPT Sampler 7 16 9 13.6 13.6 SAND, clayey, some fine gravel; trace silt, 5Y 4/1 dark gray (SC) 5 5 80 SPT Sampler 8 3 12.1 3 73 SPT Sampler 3 8 5 10.6 10.6 CLAY, organic-L, moist, organic soil with 2 calcareous sand and gravel particles, 5Y 2.5/1 black (OL) 87 SPT Sampler 1 2 1 SAND, clayey, moist, calcareous sand and gravel fragments, 7.5YR 2.5/1 black (SC) WOH 63 SPT Sampler 1 2 1 7.6 2 CLAY, lean, moist, some calcareous gravel. 93 SPT Sampler 1 little organics, 10YR 4/1 dark gray (CL) 5 -10 4 10.5 SAND, clayey, trace gravel, trace silt, 2.5Y 6/1 gray (SC) 2 87 SPT Sampler 2 6 4 12.0 4.6 SAND, silty, some coarse gravel, 2 2.5Y 6/1 gray (SM) 40 SPT Sampler 4 20 16 3.1 LIMESTONE, fossiliferous, weathered, 4 x 5-1/2" moderately fractured, vuggy, glaconitic staining; some clay infills, 5Y 8/1 white DT = 9 mins HP = 200 psi DFR = 100 % ROD 65

(Continued)

SAJ FORM 1836 JUN 02

DR	ILLING	LOC	(Cont. Sheet)	100000	cksonville	Distr	ict		SHEET 2	HEETS
PROJEC	т			_	DINATE S	_		PROFIT THEY SPECIAL DESIGNATION TO	VERTICAL	
_			DECOMP Part 2	-	ate Plane	_	_		NAVD88	
	ON COORD 710,800		26,372	1.7.7	ATION TO	OF E	ORIN	ā		
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERI		REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 0.5 FT.	N-VALUE
					65		RQD 32	4 x 5-1/2" DT = 9 min: HP = 200 pi DFR = 100 9	s si	
	Westle place				40	вох 1	ROD 11	4 x 5-1/2" DT = 5 mins HP = 200 p DFR = 70 %	s si	S. S. L. B. Charles Construction
-6.1	22.7		NOTES: 1. USACE Jacksonville is the cust these original files. 2. Solls are field visually classified accordance with the Unified Soils Classification System. 3. Grout		×			-6.1 140# hammer w/30" drop use: 2.0' split spoon (1-3/8" I.D x 2 Abbreviations: WOH = Weight of Hammer. DT = Drill Time. HP = Hydraulic Pressure. DFR = Drill Fluid Return.	2" O.D.)	
	ORM 18									

Boring Designation CP11-DCOMP-CB-0037 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS PROJECT D. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 VERTICAL C&SF CERP WCA 3 DECOMP Part 2 L-4 South, Proposed Pump Station Alternate NAVD88 MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 710,839 Y = 726,167 CP11-DCOMP-CB-0037 Failing 1500 MANUAL HAMMER DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM 0 NAME OF BRILLER 13. TOTAL NUMBER CORE BOXES Charlie Brown 14. ELEVATION GROUND WATER 8.3 Ft. DIRECTION OF BORING BEARING DEG. FROM VERTICAL STARTED COMPLETED VERTICAL INCLINED 15. DATE BORING 03-22-11 03-22-11 16. ELEVATION TOP OF BORING 20.0 Ft. 6. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING 61 % 7. DEPTH DRILLED INTO ROCK SIGNATURE AND TITLE OF INSPECTOR S. TOTAL DEPTH OF BORING 20.7 Ft. Michael Fitzhamis, Geologist SAMPLE BLOWS/ 0.5 FT. ROD DEPTH CLASSIFICATION OF MATERIALS REMARKS ELEV. 20.0 0.0 20.0 FILL, gravelly, trace organics; trace clay, 10 trace roots; some shell fragments, 5YR 7/1 light gray 24 67 SPT Sampler 40 16 18.5 From El. 18,5 to 14.0 Ft., sandy, trace organics; trace shell fragments, 7.5YR 4/1 dark gray 4 53 SPT Sampler 6 8 17:0 9 67 SPT Sampler 10 23 13 15.5 11 87 SPT Sampler 15 36 21 14.0 From El. 14.0 to 12.5 Ft., gravelly, some silt, 13 7.5YR 5/2 brown 67 SPT Sampler 10 22 12 12.5 From El. 12.5 to 11.0 Ft. sandy. 5 10YR 5/1 gray Ö SPT Sampler 6 12 6 11.0 SAND, clayey, trace gravel; some shell fragments, 10YR 7/1 light gray (SC) CLAY, organic-L, low plasticity, some sand. 9 08 SPT Sampler 2 -10 4 10YR 2/1 black (OL) 10YR 27 black (OL) SAND, silty, some shell fragments, 10YR 7/2 light gray (SM) CLAY, organic-H, some fibrous material, 5YR 2.5/2 dark reddish brown (OH) 2 1 100 SPT Sampler 2 4 2 12.0 0.8 SAND, silty, 10YR 2/2 very dark brown (SM) woh 100 SPT Sampler Woh 0 woh 6.5 2 SAND, clayey, some gravel and silt; some shell fragments; trace organics, 10YR 5/2 grayish brown (SC) 80 SPT Sampler 7 7 50 SAJ FORM 1836 JUN 02 (Continued)

DRI	LLING	LOG	(Cont. Sheet)	Jacks		Dist	rict		ET 2 2 SHEETS
PROJEC.	r			COORDIN		_	_	UM HORIZONTAL VERTICA	
_		-	DECOMP Part 2	State	_		_		D88
	10,839		26,167	20.0 F		OF E	ORIN	G	
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIA		REC.	BOX OR SAMPLE	ROD	REMARKS	BLOWS/ 0.5 FT.
		97			69	998		SPT Sampler 5.7	1 4 54+
1.9	18.1				0			Advanced Boring	
+0.7	20.7	111111111111111111111111111111111111111	LIMESTONE, moderately hard, mo fractured, vuggy, 10YR 7/1 light gra	ay	100	вох	RQD 42	4 x 5-1/2" DT = 11 mins HP = 200 psi DFR = 90 %	
			NOTES. 1. USACE Jacksonville is the custothese original files. 2. Soits are field visually classified accordance with the Unified Soits Classification System. 3. Grout					140# hammer w/30" drop used with 2,0" split spoon (1-3/8" I.D. x 2" O.D.). Abbreviations: WOH = Weight of Hammer. DT = Drill Time. HP = Hydraulic Pressure DFR = Drill Fluid Return.	

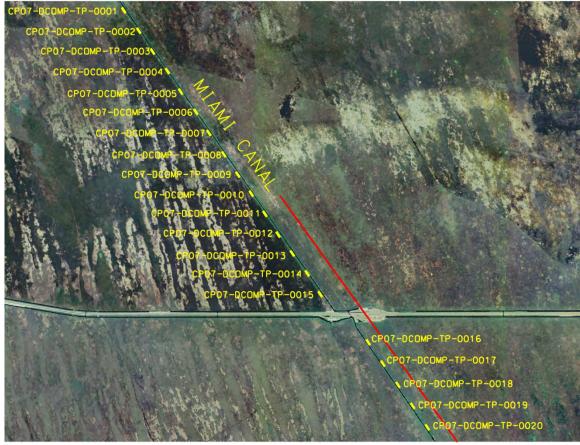


Figure G-2-3. Trench Locations along Miami Canal (Wolf WPC, 2009)

Boring Designation CP08-DCOMP-TP-0001 INSTALLATION NOISIVIA SHEET 1 DRILLING LOG South Atlantic Jacksonville District 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks C&SF CERP WCA 3 DECOMP 10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, FLE (U.S. Ft.) NAD83 NAVD88 2. BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP08-DCOMP-TP-0001 X = 758,064 Y = 683,851 **CAT 320** MANUAL HAMMER DRILLING AGENCY CONTRACTOR FILE NO. DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES WPC, Inc. 0 4. NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 Danny's Backhoe 14. ELEVATION GROUND WATER Depth 4.0 Ft. DIRECTION OF BORING BEARING DEG. FROM VERTICAL ₩ VERTICAL STARTED COMPLETED 15. DATE BORING 10-18-08 INCLINED 10-18-08 Not Determined 6. THICKNESS OF OVERBURDEN 16. ELEVATION TOP OF BORING N/A 17. TOTAL RECOVERY FOR BORING N/A 7. DEPTH DRILLED INTO ROCK N/A 18. SIGNATURE AND TITLE OF INSPECTOR B. TOTAL DEPTH OF BORING Tom Casey, P.E., Geotechnical Engineer BOX OR SAMPLE BLOWS/ N-VALUE RQD OR UD REC ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 00 0.0 -0 GRAVEL, poorly-graded with silt, mostly angular to subangular fine to coarse gravel-sized limestone, few subangular to 6.5 rounded fine to medium-grained sand-sized quartz, few silt, few angular to subangular fine to medium-grained sand-sized shell, moist, 2.5Y 6/3 light yellowish brown (GP-GM) Test Pit 6.5 6.5 CLAY organic H, high-plasticity, mostly co some organic matter, little silt, wet, (compressed seat), 10YR 3/3 dark sown (OH) 9.0 LIMESTONE NOTES: -10 Soils are field visually classified in accordance with the Unified Soils Classification System. SAJ FORM 1836 JUN 02

Boring Designation CP08-DCOMP-TP-0002 DRILLING LOG Jacksonville District South Atlantic OF | SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks C&SF CERP WCA 3 DECOMP 10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane FLE (U.S. Ft.) NAD83 NAVD88 2. BORING DESIGNATION LOCATION COORDINATES 11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER
MANUAL HAMMER CP08-DCOMP-TP-0002 X = 759,269 Y = 682,191 **CAT 320** 3. DRILLING AGENCY CONTRACTOR FILE NO. UNDISTURBED (UD) DISTURBED 12. TOTAL SAMPLES WPC. Inc. 0 4. NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 Danny's Backhoe 14. ELEVATION GROUND WATER Depth 4.0 Ft. DIRECTION OF BORING
VERTICAL DEG. FROM VERTICAL BEARING STARTED COMPLETED 15. DATE BORING INCLINED 10-17-08 10-17-08 6. THICKNESS OF OVERBURDEN 16. ELEVATION TOP OF BORING Not Determined 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A 18. SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 8.5 Ft Tom Casey, P.E., Geotechnical Engineer BOX OR SAMPLE BLOWS/ OR UD CLASSIFICATION OF MATERIALS REMARKS REC. 0 0.0 GRAVEL, poorly-graded, mostly angular to subangular fine to coarse gravel-sized limestone, little subangular to rounded fine to medium-grained sand-sized quartz, trace silt, moist, 2.5Y 6/2 light brownish gray (GP) -0 5.5 S-1 Test Pit 4.5 At 4.5 Ft., some organic matter -5 CLAY, organic H, high plasticity, mostly diay, some organic matter, little sit, wet, 3 (compressed peat), 10YR 3/3 dark brown Test Pit 8.5 85 LIMESTONE NOTES: Soils are field visually classified in accordance with the Unified Soils -10 Classification System SAJ FORM 1836

08-DCOM ING AGEN PC, Inc. OF DRILL INDY'S BAC	WCA	3 DECO	th Atlantic			. SIZE	_	_	e of BIT	See Rema	arks	OF SHI	
SF CERF 08-DCOM ING AGEN PC, Inc. OF DRILL INNY'S BAC	NATION MP-TP-		MP				WAR	2.55%	AL 011	nee veins	at the		_
08-DCOM ING AGEN PC, Inc. OF DRILL INDY'S BAC	NATION MP-TP-		CE TO			10. CO	RDI	NATE	SYSTEM/DATE	IM HOR	HZONTAL	VERTICAL	
O8-DCOM ING AGEN PC, Inc. OF DRILL INNY'S BAC	MP-TP-	_							te. FLE (U.S.		VAD83	NAVD8	R
O8-DCOM ING AGEN PC, Inc. OF DRILL INNY'S BAC	MP-TP-		LOCATION C	DORDINATES	- 13				RER'S DESIGNA			UTO HAMME	
OF DRILL nny's Bac TION OF E	CY		X = 760,2	69 Y = 680.	577	(CAT	320				MANUAL HAM	
nny's Bac				CONTRACTOR	FILE NO.	2. TO	AL S	SAMPI	LES	DISTUR	BED U	NDISTURBED	(UD)
TION OF E	ER				-	3. TO1	AL I	NUMB	ER CORE BOX	es 0			
						4. FLE	VAT	ION G	ROUND WATE	R Den	th 3.5 Ft.		
CLINED	IORING	k.	DEG. FROM VERTICAL	BEARING	-	15. DA1				STA	RTED 0-17-08	10-17-0	
NESS OF	OVERB	URDEN	N/A		-	16. ELE	VAT	ION T	OP OF BORING	_	Determined	10-17-0	0
DRILL ED	INTO	ROCK	N/A			17. TO	AL I	RECOV	VERY FOR BOR	IING N	/A		
		-			-								
DEPTHO		NG 0	D FL			7 7	_	Case	ey, P.E., Geo	technical !	Engineer		- 101
DEPTH	LEGEND	G	LASSIFICATIO	ON OF MATERIAL	LS	REC.	BOX OR SAMPLE	ROD OR UD		R	EMARKS	BLOWS:	N-VALUE
0.0									///	1			
0.0	SIL					1		/	1/1		1		
		angular t	o subangular	fine to coarse	village 4 in		1		1	1			
	1	gravel-siz	fine-grained	e, little subang	urar to		/	1	,	1)	8		
		angular t	o subangular	boulder-sized		1/		1		0			
1	T	limestone	e, few silt, m	oist, 2.5Y 5/2 g	rayish	X	/	/	h	25			
		brown (C	GP-GM)		1		-	/	/	100			
- 9					1		200	(1 3	2			
. 7					1		Julk	1	05/				
	3			1	1			1	1 7				
1 1	1			1	1 9	1			./				
	211				1.	D	1		30				
- 10	1			/	1	1/	V	0	r				
1 1	3 4			/ ~		11	3	2					
	8 1		1	1	\	V	#/	1					
			1	(()	1	1094	/				Test Pit		
60			/	/V/	1>	3807							
0.0	11/10	CLAY, o	rganic-H, hig	h plasticity, mo	stly clay.	7							
		some or	ganic matter,	little silt, wet.	> /								
			ssed peat) 1	UXR 3/3 dark t	province								
		100	((11	9/								
		1	11)) 450/									
		1	111	1 3									1
8.5	(111)	LIMPAT	The same	33/									-
		LIMEST	DIVE	0/					1				
		NOTES:	1	/									
			LIC FLORIDA	and the second of	G								
		1 Soils	are field visu	Initied Saile	(A)								
			7,000	7									1
9 11						1 1							
													1
								1					
													1
	0.0 0.0 8.5	DEPTH OF BORI	DEPTH OF BORING 8. DEPTH OF BORING 8. GRAVEL angular to gravel-six rounded angular to limeston brown (6. CLAY, o some on (comprés (OH)) NOTES: 1. Soils accordar Classific	DEPTH OF BORING 8.5 Ft. DEPTH GRAVEL, poorly-grade angular to subangular gravel-sized limeston rounded fine-grained angular to subangular limestone, few silt, moreown (GP-GM) CLAY, organic-H, hig some organic matter (compressed feat), 1 (OH) 8.5 LIMESTONE NOTES. 1. Soils are field visu accordance with the Classification System	GRAVEL, poorly-graded with silt, mangular to subangular fine to coarse gravel-sized limestone, little subang rounded fine-grained sand-sized quangular to subangular boulder-sized limestone, few silt, moist, 2.5Y 5/2 grown (GP-GM) CLAY, organic-H, high plasticity, high some organic matter, little silt, wet, (compressed peat), 10YR 3/3 darkf (OH) LIMESTONE NOTES. 1. Soils are field visually classified accordance with the Unified Soils Classification System.	CLAY, organic-H, high plasticity. Mostly clay, some organic matter, little silt, wet (compressed peat), 10VR 3/3 dans brown (OH) CLAY, organic-H, high plasticity. Mostly clay, some organic matter, little silt, wet (compressed peat), 10VR 3/3 dans brown (OH) LIMESTONE NOTES. 1. Soils are field visually classified in accordance with the Unified Soils Classification System.	DEPTH OF BORING 8.5 Ft. DEPTH OF BORING 8.5 Ft. GLASSIFICATION OF MATERIALS GRAVEL, poorly-graded with silt, mostly angular to subangular fine to coarse gravel-sized limestone, little subangular to rounded fine-grained sand-sized quartz, few angular to subangular boulder-sized limestone, few silt, moist, 2.5Y 5/2 grayish brown (GP-GM) CLAY, organic-H, high plasticity, mostly clay, some organic matter, little silt, wet, (compressed peat), 10YR 3/3 dark brown (OH) LIMESTONE NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System.	DEPTH OF BORING 8.5 Ft. DEPTH OF BORING 8.5 Ft. CLASSIFICATION OF MATERIALS GRAVEL, poorly-graded with silt, mostly angular to subangular fine to coarse gravel-sized limestone, little subangular to rounded fine-grained sand-sized quartz, few angular to subangular boulder-sized limestone, few silt, moist, 2.5Y 5/2 grayish brown (GP-GM) Bulk CLAY, organic-H, high plasticity, mostly clay, some organic matter, little silt, wet, (compressed beat), 10YR 3/3 dark brown (GH) LIMESTONE NOTES. 1. Soils are field visually classified in accordance with the Unified Soils Classification System.	DEPTH OF BORING 8.5 Ft. DEPTH GRAVEL, poorly-graded with silt, mostly angular to subangular fine to coarse gravel-sized imeastone, little subangular to rounded fine-grained sand-sized quartz, few angular to subangular boulder-sized limestone, few silt, moist, 2.5Y 5/2 grayish brown (GP-GM) Bulk CLAY, organic-H, high plasticity, mostly clay, some organic matter, little silt, wet, (compressed peat), 10YR 3/3 dark brown (CH) Solis are field visually classified in accordance with the Unified Soils Classification System.	DEPTH OF BORING 8.5 Ft. DEPTH OF BORING 8.5 Ft. GLASSIFICATION OF MATERIALS GRAVEL, poorly-graded with slit, mostly angular to subangular fine to coarse gravel-sized limestone, little subangular for rounded fine-grained sand-sized quartz few angular to subangular boulder-sized limestone, few slit, moist, 2.5 Y 5/2 grayish brown (GP-GM) Bulk CLAY, organic-H, high plasticity, nostly clay, some organic matter, little slit, WeL (compressed peat), 10 NR 3/3 dark brown (GP-GM) 8.5 LIMESTONE NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System.	DEPTH OF BORING 8.5 Ft. DEPTH OF BORING 8.5 Ft. GRAVEL, poorly-graded with sit, mostly angular to subangular fine to coarse gravel-sized limestone, few sit, moist, 2.57 5/2 grayish brown (GP-GM) CLAY, organic-H, high plasticky, mostly clay some organic matter, little sith approach for the coarse organic matter, little sith, wet, compressed reath, 10VR 3/3 dark brown (GH) 8.5 LIMESTONE NOTES. 1. Soils are field visually classified in accordance with the Unified Soils Classification System.	DEPTH OF BORING 8.5 Ft. 18. SIGNATURE AND TITLE OF INSPECTOR TOM Casey, P.E., Geotechnical Engineer Casey, P.E., Geotechnical Engineer REMARKS 10.0 CRAVEL, poorly-graded with silt, mostly angular to subangular fine to coarse y and sand-sized quartz, few angular to subangular both angular to subangular to rounded fine-grained sand-sized quartz, few angular to subangular both angular to subangular both sand sized quartz, few angular to subangular both sized (GP-GM) CLAY, organic-H. high plasticky, Nostly clay, some organic matter, little silt, wet. (Compressed peat), TOXR 3/3 dark brown (GP-GM) Bulk CLAY, organic-H. high plasticky, Nostly clay, some organic matter, little silt, wet. (Compressed peat), TOXR 3/3 dark brown (GP-GM) Bulk Test Pit 1. Soils are field visually classified in accordance with the Unified Soils Classification System.	DEPTH OF BORING 8.5 Ft. 18. SIGNATURE AND TITLE OF INSPECTOR TO CASH, P.E., Geotechnical Engineer O.D. CLASSIFICATION OF MATERIALS READ TO CASH, P.E., Geotechnical Engineer O.D. CRAVEL, poorly-graded with sit, mostly angular to subangular fine to coarse grave-sized limestone, little subangular to subangular boulder-sized units. J. Sy 8/2 grayish brown (GP-GM) CLAY, organic-H, high plasticity, mostly clay some organic matter, little silt, bet (OH) CLAY, organic-H, high plasticity, mostly clay some organic matter, little silt, bet (OH) Some organic matter, little silt, bet (OH) Some organic matter, little silt, bet (OH) Some organic matter, little silt, bet (Compressed death, 10 VR 3/3 dark brown) LIMESTONE NOTES. 1. Soils are field visually classified in accordance with the Unified Soils Classification System.

npi	LLING	LOG	DIVISION	INSTA					SHEET 1	
1			South Atlantic		_	ville D			QF 1 SH	EET
1. PRO	JECT			100				e Remarks		
0	SASF CER	PWCA	3 DECOMP	10. 0	CORD	INATE	SYSTEM/DATUM	HORIZONTAL	VERTICAL	
							e, FLE (U.S. Ft.		NAVD8	8
2. BOR	ING DESIG	NATION		11. h			RER'S DESIGNATI	ON OF DRILL	AUTO HAMME	R
	CP08-DCO				CAT	320			MANUAL HAN	
	LLING AGE	NCY	CONTRACTOR FILE	NO. 12. T	OTAL	SAMP	ES		UNDISTURBED	lno
	VPC, Inc.	Tito.		1		Jestine 1		2	0	
	E OF DRIL			13. T	OTAL	NUMB	ER CORE BOXES	0		
	Danny's Ba		larg man larger	14. E	LEVA	TION G	ROUND WATER	Depth 2.5 Ft.		
5. DIR	VERTICAL	BORING	DEG. FROM BEARING				SC 1000 1000 100	STARTED	COMPLETE	D
	INCLINED			15. D	ATE B	ORING		10-17-08	10-17-0	
	CKNESS OF	OVERR	URDEN N/A	46 5	EVA	TION T	OP OF BORING	Not Determined		
b. THU	CKNESS UP	OVERD	ONDER INIA		-				4	_
7. DEP	TH DRILLE	D INTO	ROCK N/A				VERY FOR BORING	7.40.5		
	AL DEPTH	OF PAR	NG 7.0 Ft.	18. S			IND TITLE OF INS			
s. TOT	AL DEPTH	OF BOR	AU FL		_	-	y, P.E., Geotec	hnical Engineer		
		2			22	ROD	~		· ·	n an
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	REC	BOXOR	ROD OR UD	/	REMARKS	BLOWS/	N.VALUE
		FE			SAS	30	1 ~	1	20	Z
							1 11	1		
	0.0	1.311	CDAVEL poods graded with all seasons		-	1	/ 5	1		
	-		GRAVEL, poorly-graded with silt, mostly angular to subangular fine to coarse			/	(1)			
			gravel-sized limestone, few subangular to		11		. 1.	()		1
1 0 6	-	1911	rounded fine-grained sand-sized quartz.		X	1	1	2 200		
			boulder-sized limestone, few silt, moist,	1		17		3/		1
17 7	-		2.5Y 6/2 light brownish gray (GP-GM)	1	1	V	A	20		
	-	1		/-	1	1	5	7		-
				7	SM	1	3			
	-	1	/			1	03/			
		M. H		1	1	1	1 7			
	-	急相		IN	1		/	Test Pit		
	4.0	1		10	1	1	30	- 200 1 10		
	-		GRAVEL, poorly-graded, rpóstly angular	to	1	0	Y			
	-		subangular fine to coarse gravel-sized	1	1	15/				
		1.5	limestone, few subangular to rounded fine-grained sand-sized quartz, trace silt.		100					
	-		2.5Y 5/2 grayish frown (GP)		8 8-2					
		1	and death of the second	3000	-	1				
	6.0	Viiin	CLAY amada U bist at A	10				Test Pit		
	-		CLAY, organic-H, high plasticity, mostly	ciay.	1			Leader Life		
			some organic matter, little silt, wet, (compressed peat), 10XR 3/3 dark provi	/						
	7.0	1111	OH)		-					-
	-		LIMESTONE							
	-		NOTES							
		1 1	1 Soile are field with all all and							
	-		Soils are field visually chassified in accordance with the lighted Soils							1
	-		Classification System:			1				
		1 1	and the state of t							
	-									
	-									
		1 1								
	2									
		1 1								
	-	1 1								1
		1 1								
	-									
	-									

Boring Designation CP08-DCOMP-TP-0005 DIVISION INSTALLATION SHEET 1 DRILLING LOG South Atlantic Jacksonville District 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks C&SF CERP WCA 3 DECOMP 10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, FLE (U.S. Ft.) NAD83 NAVD88 2. BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP08-DCOMP-TP-0005 X = 762,724 Y = 877,123 CAT 320 MANUAL HAMMER CONTRACTOR FILE NO DRILLING AGENCY DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES WPC, Inc. 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 Danny's Backhoe 14. ELEVATION GROUND WATER Depth 3.0 Ft. DIRECTION OF BORING BEARING DEG. FROM STARTED COMPLETED **⊠** VERTICAL 15. DATE BORING 10-16-08 INCLINED 10-16-08 Not Determined 6. THICKNESS OF OVERBURDEN 16. ELEVATION TOP OF BORING N/A 17. TOTAL RECOVERY FOR BORING N/A 7. DEPTH DRILLED INTO ROCK N/A 18. SIGNATURE AND TITLE OF INSPECTOR B. TOTAL DEPTH OF BORING Tom Casey, P.E., Geotechnical Engineer BOX OR LEGEND BLOWS/ N-VALUE ROD CLASSIFICATION OF MATERIALS REC. ELEV. DEPTH REMARKS 0.0 GRAVEL, poorly-graded with silt, mostly angular to subangular fine to coarse gravel-sized limestone, little subangular to -0 rounded fine-grained sand-sized quartz, few silt, moist, 2.5Y 5/2 grayish brown (GP-GM) BUN Test Pit -5 6.0 CLAY, organic-H, high plasticity, mostly clay some organic matter, little silt, wet. (compressed peat), 10 XR 3/3 dark brown 8.0 LIMESTONE NOTES Soils are field visually classified in accordance with the Unified Soils Classification System -10 SAJ FORM 1836

DRIL	1.1310	100	DIVISION	INSTALLATION SHEET	
1000	LING	LUG	South Atlantic	Jacksonville District OF 1 s	HEET
1. PROJ				9. SIZE AND TYPE OF BIT See Remarks	
C8	SF CER	PWC	A 3 DECOMP	10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICA	
+ 0000	NG DESIG	VATIO	LOCATION COORDINATES	State Plane, FLE (U.S. Ft.) NAD83 NAVE	
	08-DCO			11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMB	
	ING AGEN		CONTRACTOR FILE NO		
	PC, Inc.			12. TOTAL SAMPLES 2 0	
	OF DRILL			13. TOTAL NUMBER CORE BOXES ()	
	enny's Ba		DEG. FROM BEARING	14. ELEVATION GROUND WATER Depth 3.0 FL	
	ERTICAL		VERTICAL	15. DATE BORING STARTED COMPLE	
	NCLINED	2010		10-16-08 10-16	-08
6. THICH	KNESS OF	OVER	BURDEN N/A	16. ELEVATION TOP OF BORING Not Determined	_
7. DEPT	H DRILLE	INTO	ROCK N/A	17. TOTAL RECOVERY FOR BORING N/A 18. SIGNATURE AND TITLE OF INSPECTOR	_
B. TOTA	L DEPTH	OF BOR	ING 8.0 Ft.	Tom Casey, P.E., Geotechnical Engineer	
10		0			-
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	REC. OB WORD REMARKS OF THE REMARKS	
		E		00 00 00 m	3
	0.0				
	0.0	ALL	GRAVEL, poorly-graded with silt, mostly	+ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$	
-			angular to subangular fine to coarse gravel-sized limestone, little subangular to		
F		141	rounded fine-grained sand-sized quartz, fer		
1			silt, trace shell, moist, 2.5Y 4/2 dark grayis		
1			brown (GP-GM)		
F				344	- 1
			/	_	
l t	-			S-1 7	+
	3.5	1	GRAVEL, silty, mostly angular to subangul		
1		711	fine to coarse gravel-sized lighestone, little	Test Pit	
1		+5.	subangular to rounded fine-grained	30	
-		HH	sand-sized quartz, little silt, trace shell, 2.5Y 3/2 very dark grayish brown (GM)	N Set	
	5.5	111	2.5Y 3/2 very dark grayish brown (GM)	Sub	
	5.5		2.5Y 3/2 very dark grayish brown (ISM) CLAY, organic H, high plasticity reestly cla	y, party	
	5.5		2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity roostly charge organic matter, little Sit. wet.	9/	
	5.5		2.5Y 3/2 very dark grayish brown (ISM) CLAY, organic H, high plasticity reestly cla	y, charge Test Pit	
	5.5		2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly ch some organic matter, little sitt, wet, (compressed peat), 10YR 3/3 dark brown	9/	
	5.5		2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly ch some organic matter, little sitt, wet, (compressed peat), 10YR 3/3 dark brown	9/	
	5.5		2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly classification organic matter, little sitt, wet, (compressed peat), 10YR 3/3 dark brown (OH)	9/	
			2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly classification organic matter, little sitt, wet, (compressed peat), 10YR 3/3 dark brown (OH)	9/	
			2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly classification organic matter, little sitt, wet, (compressed peat), 10YR 3/3 dark brown (OH)	9/	
		;H;	2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly classification organic matter, little sit, wet, (compressed peat), 10YR 3/3 dark brown (OH) LIMESTONE NOTES: Characteristics and compressed peats are compressed peats.	9/	
			2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly classification organic matter, little sitt, wet, (compressed peat), 10YR 3/3 dark brown (OH)	9/	
			2.5Y 3/2 very dark grayish boom (GM) CLAY, organic H, high plasticity, mostly change organic matter, little sitt, wet, (compressed peat), 10YR 3/3 dark brown (OH) LIMESTONE NOTES: 1. Soils are field visually classified in	9/	
			2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly classified in accordance with the Unified Soils	9/	
			2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly classified in accordance with the Unified Soils	9/	
		+++	2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly classified in accordance with the Unified Soils	9/	
		1	2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly classified in accordance with the Unified Soils	9/	
		1	2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly classified in accordance with the Unified Soils	9/	
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly classified in accordance with the Unified Soils	9/	
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly classified in accordance with the Unified Soils	9/	
			2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly classified in accordance with the Unified Soils	9/	
			2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly classified in accordance with the Unified Soils	9/	
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2.5Y 3/2 very dark grayish brown (GM) CLAY, organic H, high plasticity, mostly classified in accordance with the Unified Soils	9/	

ppi	LLING	LOG	DIVISION	INSTA				SHEET 1
		200	South Atlantic			ille District	N. House Co.	OF 1 SHEET
1. PRO		_ /4/	550015				ee Remarks	Transaction 1
C	&SF CER	PWCA	3 DECOMP	10. C		NATE SYSTEM/DATUM		VERTICAL
2 809	ING DESIG	NATION	LOCATION CODRDINATES	11 M		Plane, FLE (U.S. Fracturer's designat		NAVD88
	PO8-DCO					320	_	MANUAL HAMME
	LING AGEN	ICY	CONTRACTOR FIL	E NO. 12. T	TAL	SAMPLES		JNDISTURBED (U
	VPC, Inc.	er by	4		111	73.77	1 1	0
	anny's Ba			13. T	DTAL	NUMBER CORE BOXES	0	
	CTION OF		DEG. FROM BEARING	14. E	EVAT	TON GROUND WATER	Depth 3.0 Ft.	
	VERTICAL		VERTICAL	15. D	ATEB	ORING	STARTED	COMPLETED
			102				10-16-08	10-16-08
1	CKNESS OF		7304	-		TION TOP OF BORING	Not Determined	1
7. DEP	TH DRILLE	INTO R	OCK N/A			RECOVERY FOR BORIN		
8. TOT.	AL DEPTH	OF BORI	4G 7.5 Ft.	10. 3		Casey, P.E., Geote		
		9			1		and an angine	75
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	REC	BOX OR SAMPLE	RGD OR UD	REMARKS	BLOWS/
		FE		1	BC	00	1	10
	0.0					1/1/	1	
	0.0		GRAVEL, poorly-graded, mostly silt, so	ome		ALAN	1	
	6		organic matter, some fine to coarse		12	1 V	1	
. 1		\$500 GO	gravel-sized limestone, few subangular ounded fine-grained sand-sized quartz	,	1	\ \ \	3/	
	F		moist, 10YR 3/2 very dark grayish brow	vn /	1		Con Con	
		18.5	(GP)	" V	1/	1/ 1/2	399	
		13.5	2.1	1	(12	2	
	-	0.55			1	1	/	
	+	13.5H		/	Bulk	30/		
	T	2.2	/	V		177 0		
		1.3		1		1 1		
		10.00		10	1			
		0.23		112	1	39/		1
			1	11/	1~	.9		
		1	/ _	11	1	**/	-	
	5.0				MARC	1	Test Pit	
	-	11/11	CLAY, organic-H, bigh plasticity, mostl	y clay.	No.			
1		100	some organic mafter, little silt, wet,	La Po	1			
			compressed peat), 10YR 3/3 dark bro (OH)	0	1			
			- I	/				
(Y				1				
	20	666	///	8/	1			
1	7.5	1///	(())	7.1				
		1000	LIMESTONE		1			
	-		NOTES: 1. Soils are field visually classified in					
			NOTES:					
		1 1						
	-		1. Soils are field visually classified in					
	-	1 1	accordance with the Unified Soils					
			Classification System		1			
1					1			
1	-							
	4							
	-							
					1			
					1			
		1 1				1 1		
	-							

			DIVISION	11	NSTAL		orin			SHEET	
DRIL	LING	LOG	South Atlantic	- 1"				istrict		OF I SH	EETS
1. PROJ	ECT			9	_		_		Remarks		
		WCA	3 DECOMP	1	0. 00	ORDI	NATE	SYSTEM/DATUM	HORIZONTAL	VERTICAL	
								ne, FLE (U.S. Ft.)		NAVD8	
	NG DESIGN		LOCATION COORDINATES 0008			CAT		RER'S DESIGNATIO		AUTO HAMME MANUAL HAM	
	LING AGEN		CONTRACTOR FIL	LE NO.						UNDISTURBED	
W	PC, Inc.			1	2. TO	TAL S	SAMP	LES	3	0	
	OF DRILL			1	з. то	TAL	NUMB	ER CORE BOXES	0		
	ction of		DEG. FROM BEARING	- 1	4. EL	EVAT	ION C	ROUND WATER	Depth 4.0 Ft.		
⊠ v	ERTICAL		VERTICAL	-	5. DA	TE B	DRING	G	STARTED	COMPLETE	
-	KNESS OF	OVERRI	JRDEN N/A	-	S. FL	FVAT	ION T	TOP OF BORING	Not Determined	10-16-0	18
	H DRILLED			_				VERY FOR BORING			
			120		8. 510	GNAT	URE	AND TITLE OF INSP	PECTOR		
8. TOTA	L DEPTH C		NG 8.0 Ft.			$\overline{}$	Case	ey, P.E., Geotect	nnical Engineer		- 02
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS		REC.	BOX OR SAMPLE	OR UD	1	REMARKS	BLOWS	N-VALUE
	0.0						,	///	1		
-			GRAVEL, poorly-graded with silt, mos	tly	1		1	(1)	1		
Ė		1111	angular to subangular fine to coarse gravel-sized limestone, little subangula	ar to		1		11	(4)		
		SIT :	rounded fine-grained sand-sized quart boulder-sized limestone, few silt, trace	z, few	11		1	1	3		
-		1	moist, 2.5Y 6/3 light yellowish brown	s snell,	/	1	/		250		
F	-		(GP-GM)	/	1	5	/	1	/		
-				/	117	S-X	1	339			
-	5		/	/			1	> 9			
1		4 4		(1				Test Pit		
-			/	1	1	1		J. Commercial Commerci			
-				/3	1/	1	00				
1	5.0	3			17	S,Z	1				
	4,0	mil	SAND, silty, mostly subangular to rolu	nded	1	1			Test Pit		
t			fine-grained sand-sized quartz, some to subangular fine to coarse gravel-size	angular red	2010				1551.11		
-	-	111111	limestone, little silt, trace shell,	(X	0.0					-
1			2.5Y 5/2 grayish brown (SM)	1		S-3					
	7:0		CLEV confered to the	30/	-				Test Pit		
1			CLAY, organic-H, high plasticity, mest some organic matter, little silt, west	ну сіву,					1 2507 14		1
	8.0		(compressed peat), 10YR 3/3 dark bro	nwo							
+			(OH) LIMESTONE								
F			NOTES DIMESTONE								
1			1. Soils are field visually classified in								
-			accordance with the Unified Soils Classification System.								
F											
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ll de		1 1			1	1	1	1			1
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	LOG	South Atlantic	1000	ackson	ille Dis	strict		OF + SH	EETS
. PROJECT				SIZE AND			e Remarks		
CASE CE	RP WCA	3 DECOMP	10.	COORD	NATE :	SYSTEM/DATUM		VERTICAL	
2.50	C 1621			State	e Plane	e, FLE (U.S. Ft.	NAD83	NAVDB	8
BORING DESI	GNATION	LOCATION COORDINATES	11.			ER'S DESIGNATI		AUTO HAMME	_
CP08-DC				CAT	320			MANUAL HAM	
DRILLING AG		CONTRACTOR FILE	NO. 12.	TOTAL	SAMPL	ES	DISTURBED	UNDISTURBED	(UD)
WPC, Inc.			777	ANTE OF			3	0	
NAME OF DRI			13.	TOTAL	NUMBE	R CORE BOXES	0		
Danny's B		DEG. FROM BEARING	14.	ELEVA7	TON G	ROUND WATER	Depth 3.0 Ft.		
VERTICAL		DEG. FROM BEARING VERTICAL	15.	DATEB	ORING		STARTED 10-15-08	10-15-0	
5. THICKNESS		JRDEN N/A	16.	ELEVA	TION TO	OP OF BORING	Not Determine	_	
7. DEPTH DRILL	ED INTO R	OCK N/A	17.	TOTAL	RECOV	ERY FOR BORIN	G N/A		
		and the second	18.	SIGNAT	URE A	ND TITLE OF INS	PECTOR		
. TOTAL DEPTH	OF BORIN	NG 8.0 Ft.		Tom	Case	y P.E., Geoted	chnical Engineer		
ELEV. DEPTH	LEGEND	GLASSIFICATION OF MATERIALS	R	BOX OR SAMPLE	ROD	^	REMARKS	BLOWS/ 1 FT,	N-VALUE
	1					111	1		
0.0	-	GRAVEL, poorly-graded with silt, most	V	-	1	1	1		
į.		angular to subangular fine to coarse			X	0/1	(
-	9 1	gravel-sized limestone, few subangular	to	1	2	1	100		
F		rounded fine-grained sand-sized quartz silt, few angular to subangular fine to	, few	1	1	,	4		
t.	111	medium-grained sand-sized shell, trace		8-1	1/1	^	Test Pit		
2.0		organic matter, moist, 2.5Y 5/3 light of		-	1	1	5		-
t		brown (GP-GM) SAND, silty, mostly subangular to roun	360	Bulk	1	3/	Test Pit		
-		fine-grained sand-sized quartz, little an	gular w	S-2	1	00			
	Hill	to subangular fine to coarse gravel-size	d		1	1 1			
+		limestone, little sllt, few fine to	10	1		3/			
E		medium-grained sand-sized shell, trace organic matter, 10YR 2/2 very dark bro		1	1	9/			
+		(SM)	/	1	100				1
1			V) 3	1				
-	1111	1/10	1	1			Total Div		
F	111111	/ (()-	1	200			Test Pit		1
+	11111	/ \\\	V 00	7					
F			X						
E	11111		1						
F		1/1/1	/						
	11111	())			1 1				
8.0	11111	1 1 1							
-	1111	LIMESTONE							
+		NOTES: O'SPUTE			1 1				1
F		NOTES.							
		1 Soils are field visually classified in	- 1						
F	1 9	accordance with the Unified Soils	1						1
-		Classification System.							1
E									
+									
-									
-									
+									
1									
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Boring Designation CP08-DCOMP-TP-0010 SHEET 1 INSTALLATION **DRILLING LOG** South Atlantic Jacksonville District OF 1 SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks C&SF CERP WCA 3 DECOMP 10. COORDINATE SYSTEM/DATUM HORIZONTAL State Plane, FLE (U.S. Ft.) NAVD88 2. BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL MANUAL HAMMER CP08-DCOMP-TP-0010 X = 768,475 Y = 668,870 **CAT 320** DRILLING AGENCY CONTRACTOR FILE NO. DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES Danny's Backhoe 14. ELEVATION GROUND WATER Depth 4.0 Ft BEARING DIRECTION OF BORING DEG. FROM VERTICAL VERTICAL INCLINED 15. DATE BORING 10-15-08 10-15-08 S. THICKNESS OF OVERBURDEN N/A 16. ELEVATION TOP OF BORING Not Determined 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK 18. SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 11.0 Ft. Tom Casey, P.E., Geotechnical Engineer BOX OR SAMPLE ROE CLASSIFICATION OF MATERIALS REMARKS REC. ELEV. DEPTH 0 0.0 -0 GRAVEL, silty, mostly angular to subangular fine to coarse gravel-sized limestone, some boulder-sized limestone, little subangular to rounded fine-grained sand-sized quartz, little silt, trace organic matter, moist, 2.5Y 5/2 grayish brown (GM) Test Pit GRAVEL, poorly-graded with silt, mostly angular to subangular fipe to coarse gravel-sized limestone, few subrounded to rounded fine-grained sand-sized quartz, few silt, 2.5Y 5/2 gravish brown GP-GM CLAY, organic H, high plasticity; mostly organic matter, some clay, little silt, wet, (compressed peat), 10YR 3/3 dank brown (CH) - 5 5.5 5.5 5.5 Test Pit (OH) S-3 Test Pit -10 11.0 11 LIMESTONE 9 Soils are field visually classified in accordance with the Unified Soils Classification System. 00 b SAJ FORM 1836

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777.0.4			DIVISION	INS	TALLAT		g Designation	0, 00 000	SHEET 1	313.
DRILL	ING L	UG	South Atlantic		Jackson	ville D	District		OF 7 SH	EETS
1. PROJECT			The same					Remarks		
C&SF	FCERP	WCA 3	DECOMP	10.			SYSTEM/DATUM	HORIZONTAL	VERTICAL	
							ne, FLE (U.S. Ft.)	177 747 747	NAVD8	
Z. SORING			LOCATION COORDINATES				RER'S DESIGNATIO		AUTO HAMME	
CP08	B-DCOM		011 X = 769,589 Y = 667,23		CA	320	10		MANUAL HAM UNDISTURBED	
WPC				12.	TOTAL	SAMP	LES	2	0	(55)
4. NAME OF		R		13.	TOTAL	NUME	BER CORE BOXES	0		
	y's Back			14.	FLEVA	TION	GROUND WATER	Depth 3.5 Ft.		
5. DIRECTION		DRING	DEG. FROM BEARING	100	-	_		STARTED	COMPLETE	D
INCL.				15.	DATE	ORIN	G	10-15-08	10-15-0	18
6. THICKNE	ESS OF O	VERBU	RDEN N/A	16.	ELEVA	TION	TOP OF BORING	Not Determined	d	
7. DEPTH D	BILLEDI	NTO RO	OCK N/A	17.	TOTAL	RECO	VERY FOR BORING	N/A		
				18.	SIGNA	TURE	AND TITLE OF INSP	ECTOR		
8. TOTAL D	EPTH OF	BORIN	G 7.0 Ft.		Ton	n Cas	ey, P.E., Geotech	inical Engineer		
		2			SEC. NOR	ROD	~		10	N-VALUE
ELEV. DE	ЕРТН	LEGEND	CLASSIFICATION OF MATERIALS		REC. XX	ROD OR UD	//	REMARKS	BLOWS	××
	_	2			800		1	1		Z
0.0	0					1 30	///			
-			RAVEL, poorly-graded with silt, most	tly		1	(1)	1		
+	-		ngular to subangular fine to coarse	200	1 4	X	1/			
-	6		ravel-sized limestone, little subangula		1/		1,	3/		
	17	TI TO	ounded fine-grained sand-sized quart	z, few	X	1	1	1 3		
	1	S	ilt, moist, 2.5Y 7/3 pale yellow (GP-G	SM)	/	1/	1	0/		
		111		X	/	V .	A .	2		
		111		/	1	1/	55	7		
-	- 1/			/		1	350			
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	15	111	/		- 1	1) 0/			
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-		111		11	>	1	NA P			
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	1	111		1	(S-	5%	1	Twee real		
		1+1		V)	3		Test Pit		
5.0	U	1	TAV menania II hali ataulain	hr alas	1	4				+
-	1	100	CLAY, organic-H, bigh plasticity, most ome organic matter, little sit, wet,	ly clay	A18-	2				
	13	MA S	compressed peat), 10YR 3/3 days bro	Loun	807					
	E			and of	7			Test Pit		1
+	1	1//	OH)	/				Test Life		
+	-	1111		/						
1.73	0	11/0	1/0	3/		1				
			IMESTONE ()	7						
			1 1							
+		1	NOTES:							1
-										
			Soils are field visually grassified in							
1		8	ccordance with the United Soils							
		0	Classification System							1
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Boring Designation CP08-DCOMP-TP-0012 DIVISION NSTALLATION DRILLING LOG Jacksonville District South Atlantic 1. PROJECT SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL C&SF CERP WCA 3 DECOMP VERTICAL State Plane, FLE (U.S. Ft.) NAD83 NAVDBB 2. BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP08-DCOMP-TP-0012 X = 770,657 Y = 665,551 **CAT 320** MANUAL HAMMER CONTRACTOR FILE NO. DISTURBED UNDISTURBED (UD) DRILLING AGENCY 12. TOTAL SAMPLES WPC. Inc 4 n 4. NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES Danny's Backhoe 14. ELEVATION GROUND WATER Depth 5.0 Ft BEARING DIRECTION OF BORING DEG, FROM VERTICAL STARTED COMPLETED VERTICAL INCLINED 15. DATE BORING 10-14-08 10-14-08 6. THICKNESS OF OVERBURDEN 16. ELEVATION TOP OF BORING Not Determined N/A N/A 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A 18. SIGNATURE AND TITLE OF INSPECTOR 7.5 Ft. 8. TOTAL DEPTH OF BORING Tom Casey, P.E., Geotechnical Engineer BOXOR N-VALUE ROD CLASSIFICATION OF MATERIALS REMARKS ELEV. REC. 0.0 GRAVEL, poorly-graded with silt, mostly angular to subangular fine to coarse -0 gravel-sized limestone, few subangular to rounded fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, moist, 2.5Y 6/3 light yellowish brown (GP-GM) 8-1 Test Pit Test Pit Test Pit 6.0 CLAY, organic-H, high plasticity, mostly organic matter, some clay, little silt, wet, (compressed peat), 10XR 3/3 dark brow (OH) S-4 Test Pit LIMESTONE NOTES Soils are field visually classified in accordance with the Unified Soils Classification System. to SAJ FORM 1836 JUN 02

mmil	LLING	100	DIVISION	INSTALLATION SHEET
		200	South Atlantic	Jacksonville District OF + SHEE
1. PRO.		P WC	A 3 DECOMP	9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL
				State Plane, FLE (U.S. Ft.) NAD83 NAVD88
	NG DESIG			11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CAT 320 MANUAL HAMMI
17.	LING AGEN		CONTRACTOR FILE NO	DISTURBED UNDISTURBED (L
	PC, Inc.			12. TOTAL SAMPLES 5 0
	E OF DRILL			13. TOTAL NUMBER CORE BOXES ()
	ction of		G DEG. FROM BEARING	14. ELEVATION GROUND WATER Depth 2,0 Ft.
	NGLINED		VERTICAL	15. DATE BORING STARTED COMPLETED 10-14-08 10-14-08
6. THIC	KNESS OF	OVER	BURDEN N/A	16. ELEVATION TOP OF BORING Not Determined
7. DEPT	H DRILLE	OTNI	ROCK N/A	17. TOTAL RECOVERY FOR BORING N/A
в. тота	L DEPTH	OF BOR	ung 8.0 Ft.	18. SIGNATURE AND TITLE OF INSPECTOR Tom Casey, P.E., Geotechnical Engineer
	o's ran	QNS		
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	RCD OXWEST OX
	0.0			
			GRAVEL, poorly-graded, mostly angular to	
			subangular fine to coarse gravel-sized limestone, few subangular to rounded fine	(0
1			medium-grained sand-sized quartz, few	
		18.33	angular to subangular fine to	/ // 59/
1		10.5	medium-grained sand-sized shell, trace sil- moist, 2.5Y 8/2 pale yellow (GP)	
	5	1	moist, 2.51 6/2 pale yellow (GF)	S-1 39/
-			/	
		6/6		Test Pit
1		7.3	/ (A I I I I I I I I I I I I I I I I I I I
1		3.00		1
1	-	(4.6)		
		000		S-2 30 Tours
-		3.0		Test Pit
l t			At 5.0 Ft., some organic matter	162
				as Pit
t		3.8	/ \ \ \ \	
	6.5			S-4
	2.0	2111	CLAY organio H, high plasticity, roostly cle	$\mathcal{A} \vdash \mathcal{A} \vdash $
F	-		some organic matter, little silt, wet	Test Pit
			(compressed peat), 10YR 3/3 dark Brown	
	8.0		0	S-5 Test Pit
-			NOTES DIRECTOR	
			NOTES	
-				
			1 Soils are field visually classified in	
			accordance with the Unified Soils	
l t	-		Classification System.	
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Boring Designation CP08-DCOMP-TP-0014 SHEET 1 DRILLING LOG South Atlantic Jacksonville District OF | SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL C&SF CERP WCA 3 DECOMP VERTICAL State Plane, FLE (U.S. FL) | NAD83 NAVD88 LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL 2. BORING DESIGNATION AUTO HAMMER CP08-DCOMP-TP-0014 X = 773,044 Y = 662,414 CAT 320 MANUAL HAMMER CONTRACTOR FILE NO. UNDISTURBED (UD) DRILLING AGENCY 12. TOTAL SAMPLES 4 0 WPC Inc. NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 Danny's Backhoe Depth 2.0 Ft. 14. ELEVATION GROUND WATER BEARING DIRECTION OF BORING DEG. FROM VERTICAL STARTED COMPLETED ₩ VERTICAL 15. DATE BORING 10-14-08 INCLINED 10-14-08 Not Determined 6. THICKNESS OF OVERBURDEN 16. ELEVATION TOP OF BORING N/A 17. TOTAL RECOVERY FOR BORING NA 7. DEPTH DRILLED INTO ROCK N/A 18. SIGNATURE AND TITLE OF INSPECTOR 7.0 Ft B. TOTAL DEPTH OF BORING Tom Casey, P.E., Geotechnical Engineer SAMPLE BLOWS/ N-VALUE ROD REC. CLASSIFICATION OF MATERIALS REMARKS ELEV. ø 0.0 0 GRAVEL, poorly-graded with silt, mostly angular to subangular fine to coarse gravel-sized limestone, few subangular to graver-sized limestone, new subangular to rounded fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, moist, 2.5Y 6/2 light brownish gray (GP-GM) SH Test Pit 5-2 At 3.5 Ft., some organic matter 4.0 SAND, silty, mostly subrounded to rounded fine-grained sand-sized quartz, little silt, few fine to coarse-grained sand-sized shell, 2.5Y 3/2 very dark grayish brown (SM) Test Pit S-3 6.0 CLAY, organic-H, high plasticity, mostly organic matter, some clay, little silt, wet, (compressed peat), 10 XR 3/3 dark brow OH Test Pit S-4 Test Pit 7.0 NOTES Soils are field visually classified in accordance with the Unified Soils Classification System 10 SAJ FORM 1836

	LLING	100	DIVISION	INSTALLATION SHEET 1
2000	200	100	South Atlantic	Jacksonville District OF 1 SHEE
1. PRO		n wo	2 DECOMB	9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL
.0	ASF CER	PVVC	A 3 DECOMP	10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, FLE (U.S. Ft.) NAD83 NAVD88
2. BOR	ING DESIG	NATIO	LOCATION COORDINATES	11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER
C	PO8-DCO	MP-TF	2-0015 X = 774,113 Y = 660,68	7 CAT 320 MANUAL HAMME
	VPC Inc.	NCY	CONTRACTOR FIL	E NO. 12. TOTAL SAMPLES DISTURBED UNDISTURBED (U
	E OF DRIL	LER		13. TOTAL NUMBER CORE BOXES ()
D	anny's Ba	ckhoe	G DEG. FROM BEARING	14. ELEVATION GROUND WATER Depth 3.5 Ft.
	VERTICAL		G DEG. FROM BEARING VERTICAL	15. DATE BORING STARTED COMPLETED
_	INCLINED OKNESS OF	aven	BURDEN N/A	10-14-08 10-14-08 16. ELEVATION TOP OF BORING Not Determined
	AMPLY VA	-	The same of the sa	17. TOTAL RECOVERY FOR BORING N/A
Di-	TH DRILLE	2011		18. SIGNATURE AND TITLE OF INSPECTOR
s. TOT.	AL DEPTH	OF BOR	ung 9,5 Ft.	Tom Casey, P.E., Geotechnical Engineer
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	REG. SAM ROD REMARKS SAME
	0.0			
		15/4	GRAVEL, poorly-graded with silt, most	ly /
		111	angular to subangular fine to coarse gravel-sized limestone, few subangular	
			rounded fine-grained sand-sized quartz silt, few angular to subangular fine to	s, few
			medium-grained sand-sized shell, mois	st. See See See See See See See See See Se
	-		2.5Y 8/2 pale yellow (GP-GM)	
				/ S ²
	1		/	Test Pit
			/	The state of the s
		3+1		15/1
1	-	1		
			/_	\$.2
	5.0		GRAVEL, poorly-graded, prostry andula	
	5.0		GRAVEL, poorly-graded, prostly angula subangular fine to coarse gravel-sized	ar to Test Pit
	5.0	10.00	subangular fine to coarse gravel sized limestone, few angular to subangular h coarse-grained sand-sized shell, trace	ar to Test Pit
	5.0		subangular fine to coarse gravel-sized limestone, few angular to subangular for coarse-grained sand-sized shell, trace subrounded to rounded fine-grained.	ar to Test Pit
	5.0		subangular fine to coarse gravel-sized limestone, few angular to subangular ha coarse-grained sand-sized shell, trace subrounded to rounded fine-graineds, sand-sized quartz, trace silt, 2.5YX/2 li	ar to Test Pit
	5.0		subangular fine to coarse gravel-sized limestone, few angular to subangular for coarse-grained sand-sized shell, trace subrounded to rounded fine-grained.	ar to Test Pit
	5.0		subangular fine to coarse gravel-sized limestone, few angular to subangular ha coarse-grained sand-sized shell, trace subrounded to rounded fine-graineds, sand-sized quartz, trace silt, 2.5YX/2 li	ar to Test Pit
			subangular fine to coarse gravel-sized limestone, few angular to subangular ha coarse-grained sand-sized shell, trace subrounded to rounded fine-graineds, sand-sized quartz, trace silt, 2.5YX/2 li	Test Pit Test Pit Test Pit
	5.0		subangular fine to coarse gravel-sized limestone, tew angular to subangular fo coarse-grapped sand-sized shell, trace subrounded to rounded fine-grained, sand-sized quartz, trace sill, 2.5 V.2/2 ligray (GP)	Test Pit S-3 Test Pit
	8.5		subangular fine to coarse gravel-staed imestone, few angular to subangular fine coarse-grained sand-sized shell, trace subrounded to rounded fine-grained, sand-sized quartz, trace silt, 2.57-2/2 is gray (GP) SAND, silty, mostly subangular to roun fine-grained sand-sized quartz, some s	Test Pit Test Pit Test Pit Test Pit Test Pit
			subangular fine to coarse gravel-sized imestone, few angular to subangular fo coarse-grapped sand-sized shell, trace subrounded to rounded fine-grained, sand-sized quartz, trace sill, 2.5 V.2/2 il grav (GP) SAND, silty, mostly subangular to roun fine-grained sand-sized quartz, some siltrace organic matter, wet, 10YR 3/3 da brown (SM)	Test Pit
	8.5		subangular fine to coarse gravel-sized immestone, few angular to subangular ficoarse-graped sand-sized shell, trace subrounded to rounded fine-grained, sand-sized quartz, trace silt, 2.5 Y-V/2 il gray (GP) SAND, silty, mostly subangular to roun fine-grained sand-sized quartz, some sitrace organic mattise, wet, 10 YR 3/3 da	Test Pit Test Pit Test Pit Test Pit Test Pit
	8.5		subangular fine to coarse gravel-sized imestone, few angular to subangular fo coarse-grapped sand-sized shell, trace subrounded to rounded fine-grained, sand-sized quartz, trace sill, 2.5 V.2/2 il grav (GP) SAND, silty, mostly subangular to roun fine-grained sand-sized quartz, some siltrace organic matter, wet, 10YR 3/3 da brown (SM)	Test Pit
	8.5		subangular fine to coarse gravel-sized imestone, few angular to subangular froarse-grained sand-sized shell, trace subrounded to rounded fine-grained, sand-sized quartz, trace silt, 2.5 Y-3/2 is grav (GP) SAND, silty, mostly subangular to roun fine-grained sand-sized quartz, some strace organic matter, wet, 10YR 3/3 da brown (SM) LIMESTONE NOTES:	Test Pit
	8.5		subangular fine to coarse gravel-sized ilmestone, few angular to subangular focuse-graped sand-sized shell, trace subrounded to rounded fine-graineds, sand-sized quartz, trace silt, 2.5 Y-V/2 il gray (GP) SAND, silty, mostly subangular to roun fine-grained sand-sized quartz, some strace organic matter, wet, 10 YR 3/3 da brown (SM) LIMESTONE	Test Pit
	8.5		subangular fine to coarse gravel-sized limestone, few angular to subangular focuse-graped sand-sized shell, trace subrounded to rounded fine-graineds, sand-sized quartz, trace silt, 2.5 Y-V/2 ligray (GP) SAND, silty, mostly subangular to roun fine-grained sand-sized quartz, some strace organic matter, wet, 10 YR 3/3 da brown (SM) LIMESTONE NOTES: 1. Soils are field visually classified in	Test Pit
	8.5		subangular fine to coarse gravel-sized limestone, few angular to subangular fix coarse-grained sand-sized shell, trace subrounded to rounded fine-grained, sand-sized quartz, trace silt, 2.5 V-2/2 ligray (GP) SAND, silty, mostly subangular to roun fine-grained sand-sized quartz, some strace organic matter, wet, 10YR 3/3 da brown (SM) LIMESTONE NOTES: 1. Soils are field visually classified in accordance with the Unified Soils	Test Pit
	8.5		subangular fine to coarse gravel-sized limestone, few angular to subangular fix coarse-grained sand-sized shell, trace subrounded to rounded fine-grained, sand-sized quartz, trace silt, 2.5 V-2/2 ligray (GP) SAND, silty, mostly subangular to roun fine-grained sand-sized quartz, some strace organic matter, wet, 10YR 3/3 da brown (SM) LIMESTONE NOTES: 1. Soils are field visually classified in accordance with the Unified Soils	Test Pit
	8.5		subangular fine to coarse gravel-sized limestone, few angular to subangular fix coarse-grained sand-sized shell, trace subrounded to rounded fine-grained, sand-sized quartz, trace silt, 2.5 V-2/2 ligray (GP) SAND, silty, mostly subangular to roun fine-grained sand-sized quartz, some strace organic matter, wet, 10YR 3/3 da brown (SM) LIMESTONE NOTES: 1. Soils are field visually classified in accordance with the Unified Soils	Test Pit
	8.5		subangular fine to coarse gravel-sized limestone, few angular to subangular fix coarse-grained sand-sized shell, trace subrounded to rounded fine-grained, sand-sized quartz, trace silt, 2.5 V-2/2 ligray (GP) SAND, silty, mostly subangular to roun fine-grained sand-sized quartz, some strace organic matter, wet, 10YR 3/3 da brown (SM) LIMESTONE NOTES: 1. Soils are field visually classified in accordance with the Unified Soils	Test Pit
	8.5		subangular fine to coarse gravel-sized limestone, few angular to subangular fix coarse-grained sand-sized shell, trace subrounded to rounded fine-grained, sand-sized quartz, trace silt, 2.5 V-2/2 ligray (GP) SAND, silty, mostly subangular to roun fine-grained sand-sized quartz, some strace organic matter, wet, 10YR 3/3 da brown (SM) LIMESTONE NOTES: 1. Soils are field visually classified in accordance with the Unified Soils	Test Pit
	8.5		subangular fine to coarse gravel-sized limestone, few angular to subangular fix coarse-grained sand-sized shell, trace subrounded to rounded fine-grained, sand-sized quartz, trace silt, 2.5 V-2/2 ligray (GP) SAND, silty, mostly subangular to roun fine-grained sand-sized quartz, some strace organic matter, wet, 10YR 3/3 da brown (SM) LIMESTONE NOTES: 1. Soils are field visually classified in accordance with the Unified Soils	Test Pit

Boring Designation CP08-DCOMP-TP-0016 DRILLING LOG Jacksonville District South Atlantic 1. PROJECT B. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM C&SF CERP WCA 3 DECOMP HORIZONTAL VERTICAL State Plane, FLE (U.S. Ft.) NAD83 NAVD88 LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL 2. BORING DESIGNATION AUTO HAMMER CP08-DCOMP-TP-0016 X = 778,045 Y = 656,663 CAT 320 MANUAL HAMMER 3. DRILLING AGENCY CONTRACTOR FILE NO DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES WPC, Inc. 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES Danny's Backhoe 14. ELEVATION GROUND WATER Depth 3.5 Ft. 3.5 BEARING DIRECTION OF BORING DEG. FROM VERTICAL VERTICAL INCLINED STARTED COMPLETED 15. DATE BORING 10-20-08 10-20-08 16. ELEVATION TOP OF BORING Not Determined 8. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING N/A 7. DEPTH DRILLED INTO ROCK N/A 18. SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 10.5 Ft. Tom Casey, P.E., Geotechnical Engineer BOX OR SAMPLE N-VALUE BLOWS/ OR ELEV. DEPTH CLASSIFICATION OF MATERIALS REC. REMARKS 0.0 GRAVEL, silty, mostly angular to subangular fine to coarse gravel-sized limestone, little silt, few subangular to rounded fine-grained sand-sized quartz, few boulder-sized limestone, moist, 2.5Y 6/2 light brownish gray (GM) -0 2.5 6.0 CLAY, organic-H, high plasticity, mostly clay some organic matter, little silt, wet, (compressed peat), 10 XR 3/3 dark propo-(OH) Test Pit -10 10.5 LIMESTONE NOTES Soils are field visually classified in accordance with the Unified Soils Classification System SAJ FORM 1836

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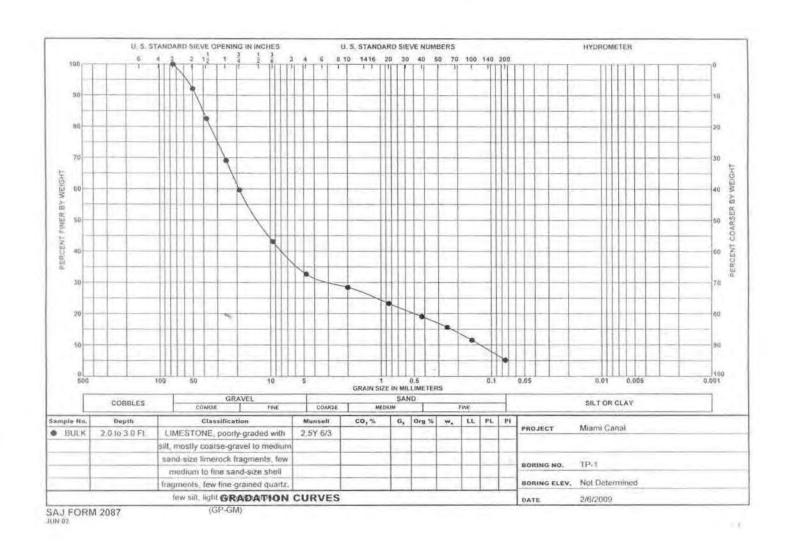
Ð. Boring Designation CP08-DCOMP-TP-0017 SHEET 1 DRILLING LOG South Atlantic Jacksonville District 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM | HORIZONTAL VERTICAL C&SF CERP WCA 3 DECOMP State Plane, FLE (U.S. Ft.) NAD83 NAVD88 LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL 2. BORING DESIGNATION AUTO HAMMER CP08-DCOMP-TP-0017 X = 779,250 Y = 655,026 **CAT 320** MANUAL HAMMER CONTRACTOR FILE NO UNDISTURBED (UD) DRILLING AGENCY 12. TOTAL SAMPLES WPC. Inc. 0 4. NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES Danny's Backhoe 14. ELEVATION GROUND WATER Depth 3.0 Ft. BEARING DIRECTION OF BORING DEG, FROM VERTICAL STARTED COMPLETED VERTICAL 15. DATE BORING INCLINED. 10-20-08 10-20-08 16. ELEVATION TOP OF BORING Not Determined 5. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING N/A 7. DEPTH DRILLED INTO ROCK N/A 18. SIGNATURE AND TITLE OF INSPECTOR 8.0 Ft. 8. TOTAL DEPTH OF BORING Tom Casey, P.E., Geotechnical Engineer BOXOR BLOWS/ N-VALUE ROD DEPTH CLASSIFICATION OF MATERIALS REC. REMARKS 0.0 GRAVEL, poorly-graded with silt, mostly angular to subangular fine to coarse gravel-sized limestone, few subangular to rounded fine-grained sand-sized quartz, few -0 silt, few angular to subangular fine to medium-grained sand-sized shell, moist, 2.5Y 8/2 pale yellow (GP-GM) 5-1 Test Pit 6 6.0 CLAY, organic-H, high plasticity, mostly clay some organic matter, little silt, wet, (compressed peat), 10XR 3/3 dark brown (OH) Test Pit þ b 8.0 38 LIMESTONE NOTES: Soils are field visually classified in accordance with the Unified Soils Classification System. -10 SAJ FORM 1836 JUN 52

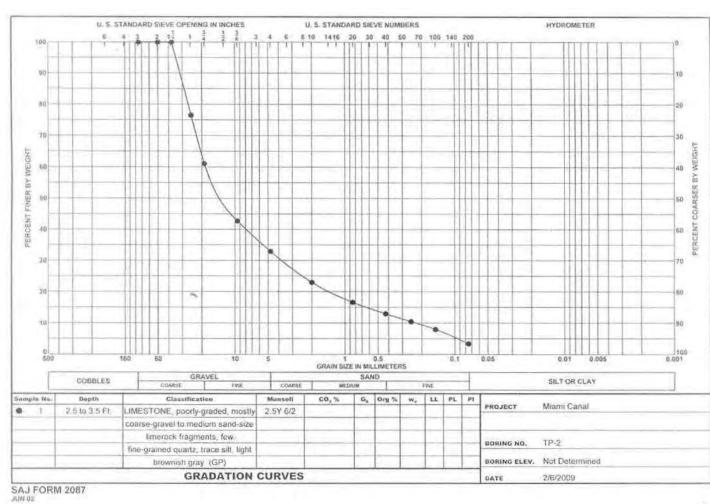
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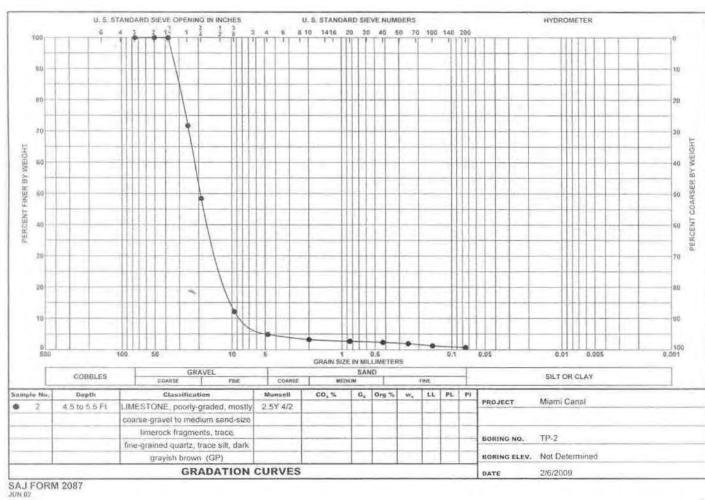
-	11110	100	DIVISION	Boring Designation CP08-DCOMP-TP-0018								
A. C. C.	LLING	LUG	South Atlantic	Jacksonville District OF 1 SHEE								
1. PRO		20072	A Table	SIZE AND TYPE OF BIT See Remarks								
-0	SESF CER	PWCA	A 3 DECOMP	10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL								
2 808	ING DESIG	NATION	LOCATION COORDINATES	State Plane, FLE (U.S. Ft.) NADB3 NAVD88 11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER								
	PO8-DCO			CAT 320 MANUAL HAMMER								
	LLING AGE	YOY	CONTRACTOR FIL	142 TOTAL SAMPLES								
	VPC, Inc.	ED		1 2 1 0								
	Danny's Ba			13. TOTAL NUMBER CORE BOXES ()								
5. DIR	ECTION OF	BORING	DEG. FROM BEARING	14. ELEVATION GROUND WATER Depth 2.0 Ft.								
	VERTICAL			15. DATE BORING STARTED COMPLETED 10-20-08 10-20-08								
-	CKNESS OF	OVERS	SURDEN N/A	16. ELEVATION TOP OF BORING Not Defermined								
				17. TOTAL RECOVERY FOR BORING N/A								
	TH DRILLE			18. SIGNATURE AND TITLE OF INSPECTOR								
B. TOT	AL DEPTH	OF BOR	ING 7.5 Ft.	Tom Casey, P.E., Geotechnical Engineer								
		Q.		SEC. NO DO DO REMARKS NO DO								
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	REC. MON ROM REMARKS								
		-										
	0.0		GRAVEL, poorly-graded with silt, most									
		300000000000000000000000000000000000000	sand-sized shell, moist, 2.5Y 4/2 dark grayish brown (GP-GM)	S-1 Test Pit								
	5.5		CLAY, organic H, high plasticity, most some organic matter, little stilt, wet (compressed peat), 10YR 3/3 dark bro (OH)	9								
	7.5		NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System.									
	E											

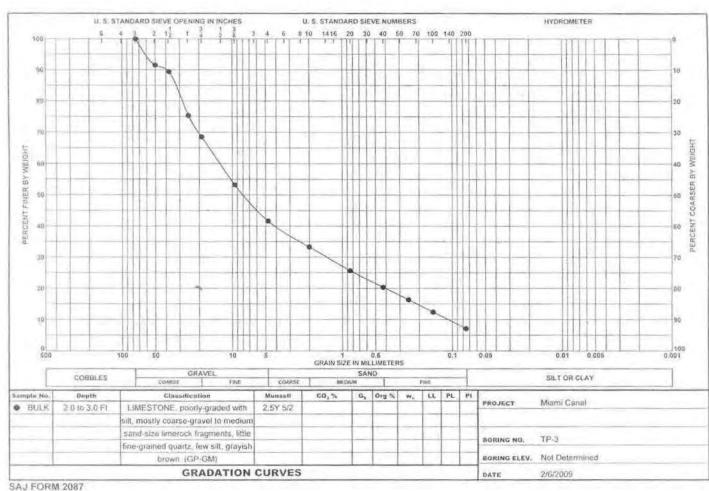
DRILLING LOG South Atlantic						Jacksonville District OF							OF 1 SH	EET
1, PROJECT						9. SIZE AND TYPE OF BIT See Remarks								
C&SF CERP WCA 3 DECOMP					1	10. CC	ORDI	NATE S	YSTEM/D/		HORIZONTA	AL :	VERTICAL	
			The account	Lengarius		45. 7			FLE (U.		NAD83		NAVDS	
	POS-DCO		The second secon	1,683 Y = 6	the state of the s	11. MA			R'S DESIG	NATIO			UTO HAMME	
3. DRILLING AGENCY CONTRACTOR FILE NO. WPC, Inc.						CAT 320								
	E OF DRILL	LER		1		13. TO	TAL	NUMBER	CORE B	OXES	0			
	Danny's Ba					13. TOTAL NUMBER CORE BOXES 0 14. ELEVATION GROUND WATER Depth 3.0 Ft								
5. DIRECTION OF BORING DEG. FROM BEARING VERTICAL INCLINED						15. DATE BORING STARTED COMPLETED 10-21-08 10-21-08								
	CKNESS OF	OVERB	URDEN N/A			16. EL	EVAT	ION TO	P OF BOR	ING	Not Determi	_	13-01	,,,
7. DEP	TH DRILLE	O INTO I	ROCK N/A			17. TO	TAL	RECOVE	RY FOR B	ORING	N/A			
	530-212-354	-			_	18. SI			D TITLE C					
8, 101	AL DEPTH	OF BORI	NG 8.5 Ft.			-		Casey	P.E., G	eotech	nical Engine	er		
ELEV.	DEPTH	LEGEND	CLASSIFICA	TION OF MATER	RIALS	REC.	BOXOR	ROD OR UD	1	1	REMARKS	5	BLOWS	M.VALUE
	0.0							1	/	1	1			
	8.5	- 1	CLAY, organic-H, some organic mati (compressed peat) (OH)	er, little silt, we	it.	Spanner of the state of the sta		and the same	> 5 j	and the state of t	Test Pit			
			NOTES: 1. Soils are field v accordance with th Classification Syst	e Unified Soils										

Boring Designation CP08-DCOMP-TP-0020 INSTALLATION DRILLING LOG South Atlantic Jacksonville District OF | SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks C&SF CERP WCA 3 DECOMP 10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, FLE (U.S. Ft.) NAD83 NAVD88 2. BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP08-DCOMP-TP-0020 X = 782,887 Y = 649,798 CAT 320 MANUAL HAMMER DRILLING AGENCY CONTRACTOR FILE NO UNDISTURBED (UD) 12. TOTAL SAMPLES WPC, Inc. 0 4. NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 Danny's Backhoe 14. ELEVATION GROUND WATER Depth 3.5 Ft. 3.5 BEARING DIRECTION OF BORING DEG, FROM VERTICAL COMPLETED ☑ VERTICAL STARTED 15. DATE BORING 10-22-08 INCLINED. 10-22-08 16. ELEVATION TOP OF BORING Not Determined 6. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING N/A 7. DEPTH DRILLED INTO ROCK 18. SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING Tom Casey, P.E., Geotechnical Enginee BOXOR M-VALUE LEGEND OR UD CLASSIFICATION OF MATERIALS ELEV. DEPTH REC REMARKS 0 0 0.0 GRAVEL, poorly-graded with silt, mostly angular to subangular fine to coarse gravel-sized limestone, few subangular to -0 rounded fine-grained sand-sized quartz, few boulder-sized limestone, few silt, few angular to subangular fine to medium-grained sand-sized shell, moist, 2.5Y 7/2 light gray (GP-GM) Test Pit V S-2 Test Pit 06.5 CLAY organio-H, high plasticity, hostly clay some organic matter, little silt, wet, (compressed peat), 10YR 3/3 dark brown (OH) 15 8.0 LIMESTONE NOTES: Soils are field visually classified in accordance with the Unified Soils Classification System. -10 SAJ FORM 1836

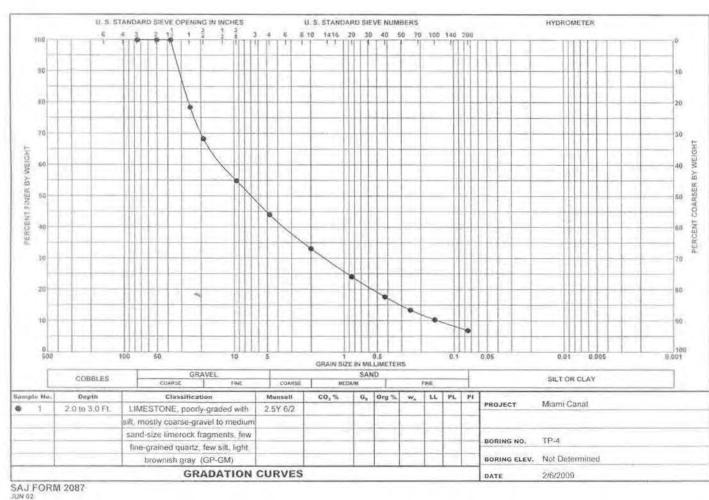


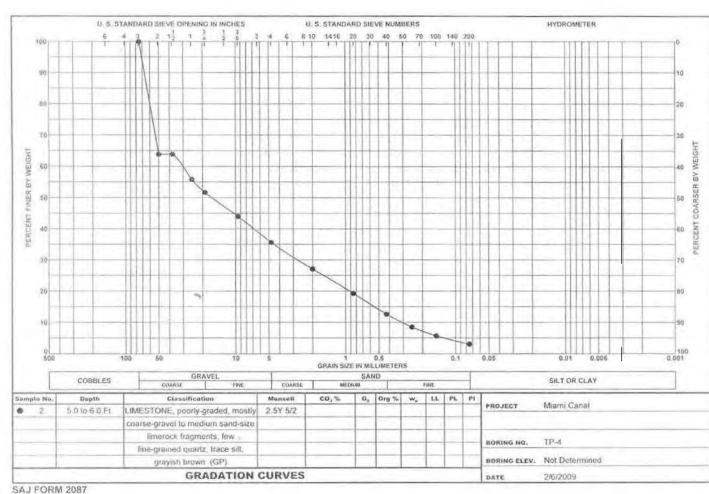




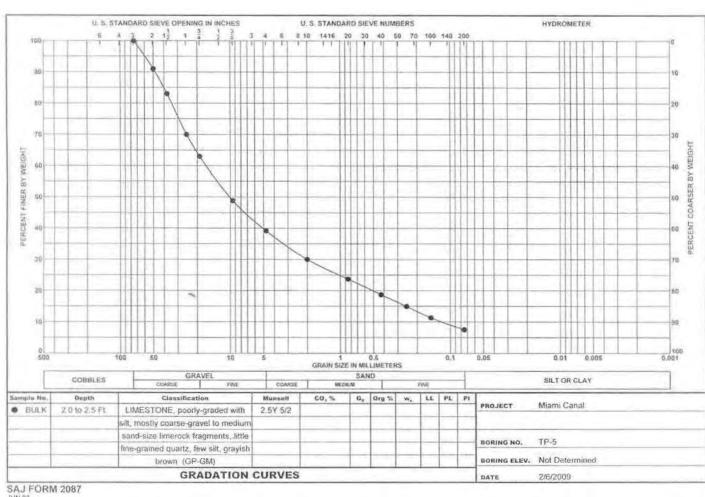


SAJ FORM 2087

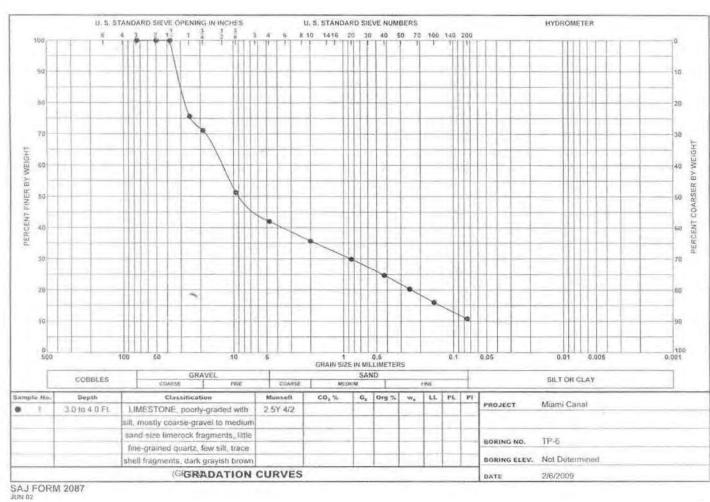


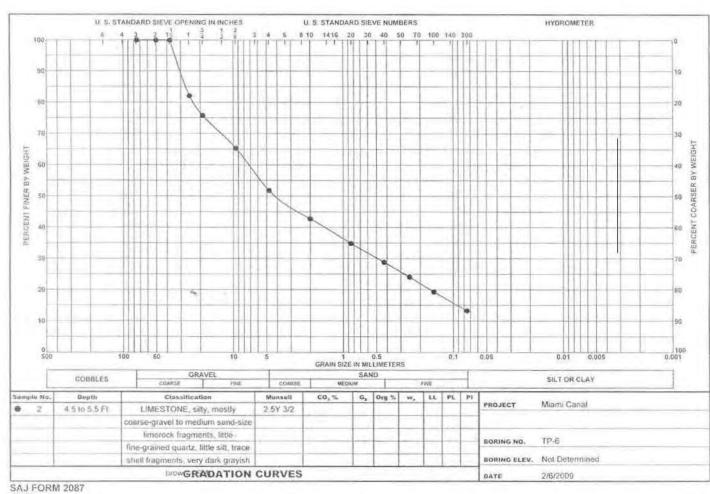


SAJ FORM 2087

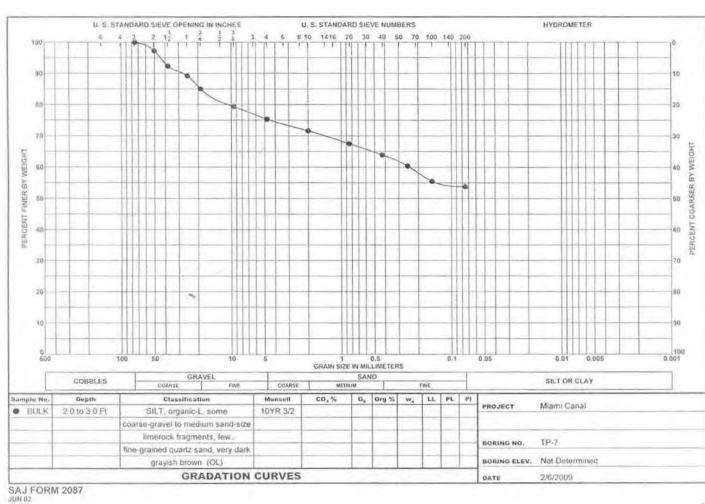


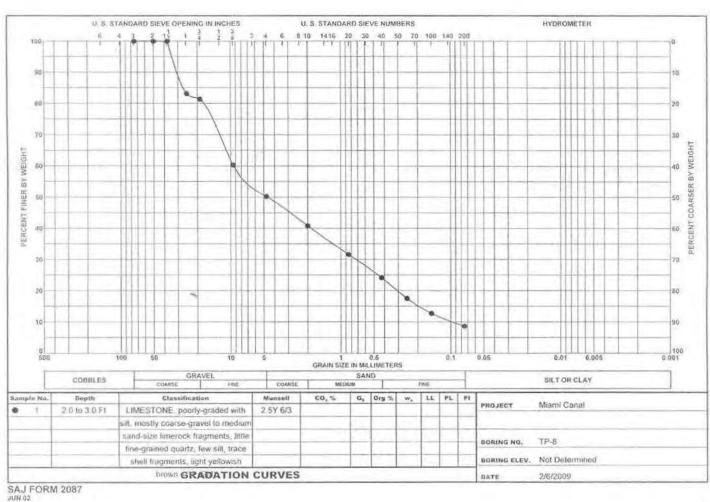
SAJ FORM 2087

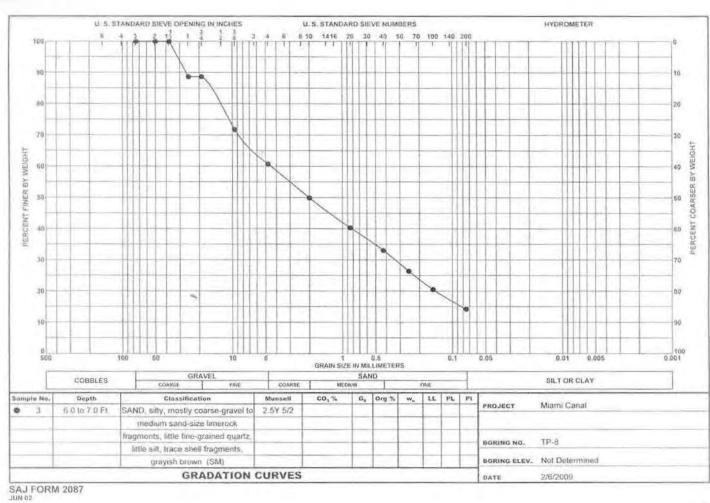


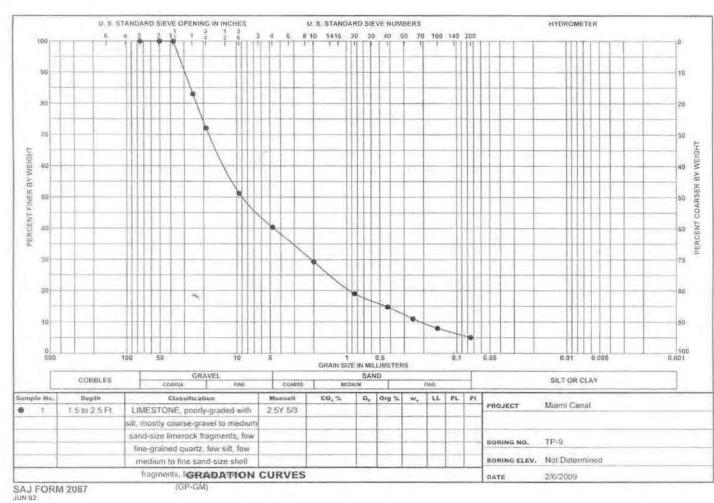


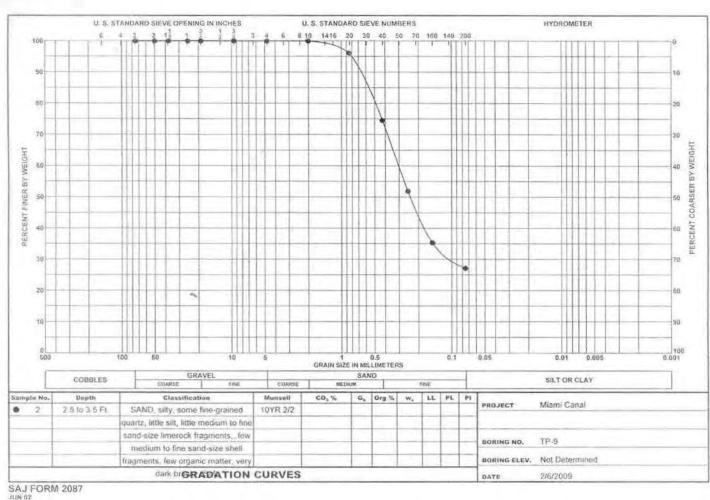
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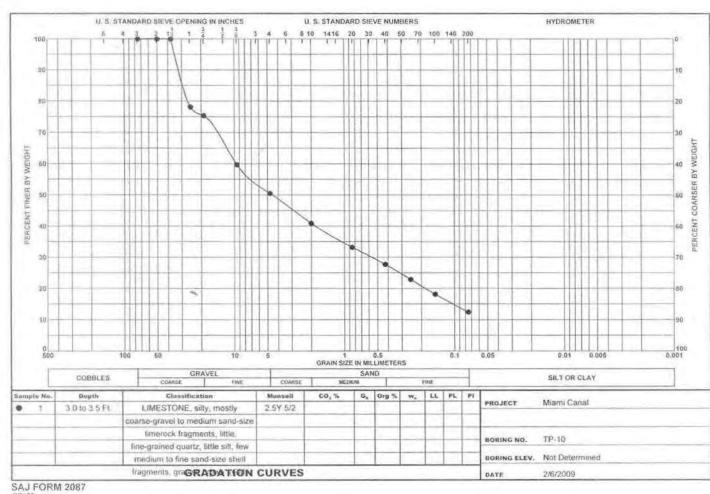




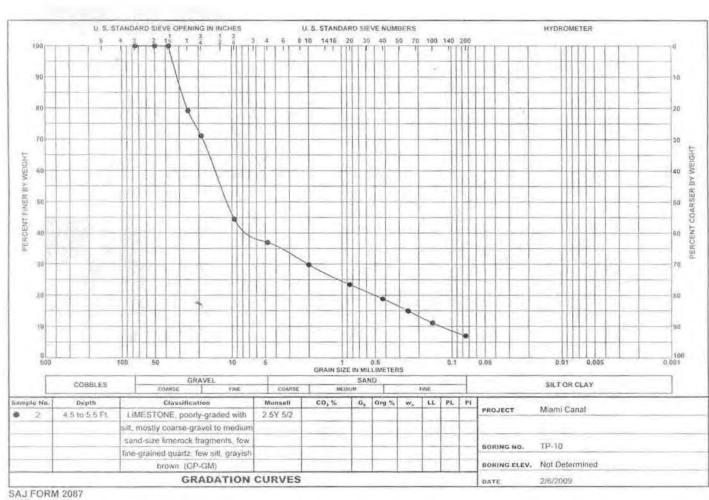








SAJ FORM 2087



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ANNEX G-3. GEOLOGICAL INVESTIGATIONS – BLUE, GREEN, AND YELLOW LINES



Figure G-3-1. L-67 test pit excavations (U.S. Army Corps of Engineers, 2002)

Boring Designation CP02-DL67E-TP-0001 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. FL) NAD83 VERTICAL US DOI Modified Waters to ENP L-67 Extension NGVD29 BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 781,188 Y = 557,009 CP02-DL67E-TP-0001 Backhoe MANUAL HAMMER DRILLING AGENCY UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAJ NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 H& H Land 14. ELEVATION GROUND WATER Not Encountered DIRECTION OF BORING BEARING DEG. FROM VERTICAL COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 06-12-02 06-12-02 16. ELEVATION TOP OF BORING 15.0 Ft. 6. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 10.0 Ft. Steve Myers, Geologist SOX OR BLOWS/ ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 15.0 15.0 0.0 FILL, gravelly, mostly subangular to rounded fine to coarse gravel-sized limestone, some subangular to rounded fine to coarse-grained sand-sized carbonate, little silt, few cobble-sized limestone, strong reaction with HCl, moist, gray Test Pit 10.0 5.0 NOTES: USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Laboratory Testing Results SAMPLE SAMPLE LABORATORY ID DEPTH CLASSIFICATION 0.0/10.0 GW-GM* SAJ FORM 1836 JUN 02 (Continued)

Boring Designation CP02-DL67E-TP-0001 SHEET 2 OF 2 SHEETS INSTALLATION **DRILLING LOG (Cont. Sheet)** Jacksonville District COORDINATE SYSTEM/DATUM HORIZONTAL PROJECT VERTICAL NAD83 NGVD29 US DOI Modified Waters to ENP State Plane, FLE (U.S. Ft.) ELEVATION TOP OF BORING LOCATION COORDINATES X = 781,188 Y = 557,009 15.0 Ft. SOX OR BLOWS/ N-VALUE CLASSIFICATION OF MATERIALS REMARKS DEPTH *Lab visual classification based on gradation curve. No Atterberg limits. SAJ FORM 1836-A JUN 02

Boring Designation CP02-DL67E-TP-0002 DIVISION NSTALLATION SHEET 1 DRILLING LOG South Atlantic Jacksonville District OF SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. FL.) NAD83 VERTICAL US DOI Modified Waters to ENP L-67 Extension NGVD29 BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP02-DL67E-TP-0002 X = 792,572 Y = 573,843 Backhoe MANUAL HAMMER CONTRACTOR FILE NO DRILLING AGENCY UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAJ 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 H& H Land 14. ELEVATION GROUND WATER Not Encountered DIRECTION OF BORING BEARING DEG. FROM VERTICAL COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 06-12-02 06-12-02 16. ELEVATION TOP OF BORING 15.5 Ft. 6. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 10.0 Ft. Steve Myers, Geologist SOX OR BLOWS ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 15.5 15.5 0.0 FILL, gravelly, mostly fine to coarse gravel-sized limestone, some angular to subangular fine to coarse-grained sand-sized carbonate, little silt, strong reaction with HCl, dry, gray At El. 11.5 Ft., few cobble-sized limestone Test Pit 10.0 NOTES: USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Laboratory Testing Results SAMPLE LABORATORY CLASSIFICATION SAMPLE ID DEPTH 0.0/10.0 GP* SAJ FORM 1836 JUN 02 (Continued)

Boring Designation CP02-DL67E-TP-0002 INSTALLATION **DRILLING LOG (Cont. Sheet)** Jacksonville District OF 2 SHEETS COORDINATE SYSTEM/DATUM HORIZONTAL PROJECT VERTICAL NAD83 NGVD29 US DOI Modified Waters to ENP State Plane, FLE (U.S. Ft.) ELEVATION TOP OF BORING LOCATION COORDINATES X = 792,572 Y = 573,843 15.5 Ft. SOX OR BLOWS/ N-VALUE CLASSIFICATION OF MATERIALS REMARKS DEPTH *Lab visual classification based on gradation curve. No Atterberg limits.

SAJ FORM 1836-A JUN 02

Boring Designation CP02-DL67E-TP-0003 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. FL) NAD83 VERTICAL US DOI Modified Waters to ENP L-67 Extension NGVD29 BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 804,064 Y = 590,838 CP02-DL67E-TP-0003 Backhoe MANUAL HAMMER DRILLING AGENCY UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAJ NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 H& H Land 14. ELEVATION GROUND WATER Not Encountered DIRECTION OF BORING BEARING DEG. FROM VERTICAL COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 06-12-02 06-12-02 16. ELEVATION TOP OF BORING 15.6 Ft. 6. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 10.0 Ft. Steve Myers, Geologist SOX OR BLOWS ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 15.6 15.6 0.0 FILL, gravelly, mostly subrounded to rounded fine to coarse gravel-sized limestone, little subangular to rounded fine to coarse-grained sand-sized carbonate, little silt, few cobble-sized limestone, moist, gray Test Pit 10.0 NOTES: USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Laboratory Testing Results SAMPLE SAMPLE LABORATORY ID DEPTH CLASSIFICATION

(Continued)

0.0/10.0

SAJ FORM 1836 JUN 02 GP-GM*

Boring Designation CP02-DL67E-TP-0003 INSTALLATION **DRILLING LOG (Cont. Sheet)** Jacksonville District OF 2 SHEETS COORDINATE SYSTEM/DATUM PROJECT HORIZONTAL VERTICAL NAD83 NGVD29 US DOI Modified Waters to ENP State Plane, FLE (U.S. Ft.) ELEVATION TOP OF BORING LOCATION COORDINATES X = 804,064 Y = 590,838 15.6 Ft. SOX OR BLOWS/ N-VALUE CLASSIFICATION OF MATERIALS REMARKS DEPTH *Lab visual classification based on gradation curve. No Atterberg limits.

SAJ FORM 1836-A JUN 02

Boring Designation CP02-DL67E-TP-0004 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. FL.) NAD83 VERTICAL US DOI Modified Waters to ENP L-67 Extension NGVD29 BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP02-DL67E-TP-0004 X = 781,054 Y = 545,860 Backhoe MANUAL HAMMER CONTRACTOR FILE NO DRILLING AGENCY UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAJ 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 H& H Land 14. ELEVATION GROUND WATER 6.1 Ft. DIRECTION OF BORING BEARING DEG. FROM COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 06-19-02 06-19-02 16. ELEVATION TOP OF BORING 6. THICKNESS OF OVERBURDEN N/A 10.1 Ft. 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 10.0 Ft. Steve Myers, Geologist SOX OR BLOWS ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 10.1 10.1 0.0 FILL, gravelly, mostly angular to subrounded fine to coarse gravel-sized limestone, some silt, little cobble-sized limestone, few angular to subrounded fine to coarse-grained sand-sized carbonate, strong reaction with HCl, brown Test Pit At El. 6.1 Ft., Wet PEAT, fibrous, black (PT Test Pit 2 0.1 10.0 0.1 NOTES: USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Laboratory Testing Results SAMPLE SAMPLE LABORATORY ID DEPTH CLASSIFICATION 0.0/6,5 GW* SAJ FORM 1836 JUN 02 (Continued)

Boring Designation CP02-DL67E-TP-0004 INSTALLATION **DRILLING LOG (Cont. Sheet)** Jacksonville District OF 2 SHEETS PROJECT COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL NAD83 NGVD29 US DOI Modified Waters to ENP State Plane, FLE (U.S. Ft.) ELEVATION TOP OF BORING LOCATION COORDINATES X = 781,054 Y = 545,860 10.1 Ft. SOX OR BLOWS/ N-VALUE CLASSIFICATION OF MATERIALS REMARKS *Lab visual classification based on gradation curve. No Atterberg limits. SAJ FORM 1836-A JUN 02

Boring Designation CP02-DL67E-TP-0005 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. FL) NAD83 VERTICAL US DOI Modified Waters to ENP L-67 Extension NGVD29 BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP02-DL67E-TP-0005 X = 786,627 Y = 554,101 Backhoe MANUAL HAMMER CONTRACTOR FILE NO DRILLING AGENCY UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAJ 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 H& H Land 14. ELEVATION GROUND WATER 3.6 Ft. DIRECTION OF BORING BEARING DEG. FROM VERTICAL STARTED COMPLETED VERTICAL INCLINED 15. DATE BORING 06-19-02 06-19-02 16. ELEVATION TOP OF BORING 9,1 Ft. 6. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 10.0 Ft. Steve Myers, Geologist SOX OR BLOWS ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 9.1 9.1 0.0 FILL, gravelly, mostly angular to subrounded fine to coarse gravel-sized limestone, little silt, few cobble-sized limestone, few subangular to subrounded fine to coarse-grained sand-sized carbonate, brown Test Pit At El. 3.6 Ft., wet PEAT, wet, fibrous, black (PT) 2 Test Pit -0.9 10.0 -0.9 NOTES: USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Laboratory Testing Results SAMPLE LABORATORY CLASSIFICATION SAMPLE ID DEPTH 0.0/7.0 GP* SAJ FORM 1836 JUN 02 (Continued)

Boring Designation CP02-DL67E-TP-0005 INSTALLATION **DRILLING LOG (Cont. Sheet)** Jacksonville District OF 2 SHEETS PROJECT COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL NAD83 NGVD29 US DOI Modified Waters to ENP State Plane, FLE (U.S. Ft.) ELEVATION TOP OF BORING LOCATION GOORDINATES X = 786,627 9.1 Ft. SOX OR BLOWS/ N-VALUE CLASSIFICATION OF MATERIALS REMARKS *Lab visual classification based on gradation curve. No Atterberg limits. SAJ FORM 1836-A JUN 02

Boring Designation CP02-DL67E-TP-0006 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. FL) NAD83 VERTICAL US DOI Modified Waters to ENP L-67 Extension NGVD29 BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP02-DL67E-TP-0006 X = 792,210 Y = 562,354 Backhoe MANUAL HAMMER CONTRACTOR FILE NO DRILLING AGENCY UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAJ 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 H& H Land 14. ELEVATION GROUND WATER 5,5 Ft. DIRECTION OF BORING BEARING DEG. FROM VERTICAL COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 06-19-02 06-19-02 16. ELEVATION TOP OF BORING 10.7 Ft. 6. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 9,5 Ft. Steve Myers, Geologist SOX OR BLOWS ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 10.7 10.7 0.0 FILL, gravelly, mostly angular to subrounded fine to coarse gravel-sized limestone, little silt, little cobble-sized limestone, few subangular to rounded fine to coarse-grained sand-sized carbonate, strong reaction with HCl, moist, brown Test Pit At El. 5.3 Ft. Wet PEAT, wet, fibrous, black/brown (PT) 2 Test Pit NOTES: 10 1. USACE Jacksonville is the custodian for these original files. Solls are field visually classified in accordance with the Unified Soils Classification System. 3. Laboratory Testing Results SAMPLE SAMPLE LABORATORY DEPTH CLASSIFICATION ID 0.0/7.2 *Lab visual classification based on gradation SAJ FORM 1836 JUN 02 (Continued)

Boring Designation CP02-DL67E-TP-0006 INSTALLATION **DRILLING LOG (Cont. Sheet)** Jacksonville District OF 2 SHEETS PROJECT COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL State Plane, FLE (U.S. Ft.) NAD83 NGVD29 US DOI Modified Waters to ENP ELEVATION TOP OF BORING LOCATION COORDINATES X = 792,210 Y = 562,354 10.7 Ft. SOX OR BLOWS/ N-VALUE CLASSIFICATION OF MATERIALS REMARKS curve. No Atterberg limits. SAJ FORM 1836-A JUN 02

Boring Designation CP02-DL67E-TP-0007 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. FL) NAD83 VERTICAL US DOI Modified Waters to ENP L-67 Extension NGVD29 BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP02-DL67E-TP-0007 X = 797,726 Y = 570,520 Backhoe MANUAL HAMMER CONTRACTOR FILE NO DRILLING AGENCY UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAJ 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 H& H Land 14. ELEVATION GROUND WATER 3,6 Ft. DIRECTION OF BORING BEARING DEG. FROM VERTICAL COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 06-19-02 06-19-02 16. ELEVATION TOP OF BORING 6. THICKNESS OF OVERBURDEN 9.6 Ft. N/A 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 10.0 Ft. Steve Myers, Geologist SOX OR BLOWS ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 9.6 0.0 9.6 FILL, gravelly, mostly angular to subrounded fine to coarse gravel-sized limestone, little cobble-sized limestone, little silt, few fine to coarse-grained sand-sized carbonate, strong reaction with HCl, dry, brown At El. 5.6 Ft., gray Test Pit Y At El. 3.6 Ft., wet PEAT, wet, fibrous, black/brown (PT) 2 Test Pit -0.4 10.0 -0.4 NOTES: USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Laboratory Testing Results SAMPLE SAMPLE LABORATORY ID DEPTH CLASSIFICATION 0.0/8.2 GP-GM* SAJ FORM 1836 JUN 02 (Continued)

Boring Designation CP02-DL67E-TP-0007 INSTALLATION **DRILLING LOG (Cont. Sheet)** Jacksonville District OF 2 SHEETS PROJECT COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL NAD83 NGVD29 US DOI Modified Waters to ENP State Plane, FLE (U.S. Ft.) ELEVATION TOP OF BORING LOCATION GOORDINATES X = 797,726 Y = 570,520 9.6 Ft. SOX OR BLOWS/ N-VALUE CLASSIFICATION OF MATERIALS REMARKS DEPTH *Lab visual classification based on gradation curve. No Atterberg limits. SAJ FORM 1836-A JUN 02

Boring Designation CP02-DL67E-TP-0008 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF | SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. FL) NAD83 VERTICAL US DOI Modified Waters to ENP L-67 Extension NGVD29 BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP02-DL67E-TP-0008 X = 803,486 Y = 579,032 Backhoe MANUAL HAMMER CONTRACTOR FILE NO DRILLING AGENCY UNDISTURBED (UD) 12. TOTAL SAMPLES 0 Corps of Engineers - CESAJ NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 H& H Land 14. ELEVATION GROUND WATER 4.7 Ft. DIRECTION OF BORING BEARING DEG. FROM COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 06-20-02 06-20-02 6. THICKNESS OF OVERBURDEN 16. ELEVATION TOP OF BORING 10.2 Ft. N/A 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 9.0 Ft. Steve Myers, Geologist SOX OR BLOWS/ ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 10.2 10.2 0.0 FILL, cobbles, mostly engular cobble-sized limestone, little silt, few sand, strong reaction with HCI, dry, gray Test Pit At El. 5.2 Ft., gravelly, some coarse gravel-sized limestone, little cobble-sized limestone Ar El. 4.7 Ft., wet PEAT, high plasticity, soft, fibrous, interbedded with lean clay, black (PT) 2 Test Pit BORING TERMINATED IN REFUSAL NOTES: 10 1. USACE Jacksonville is the custodian for these original files. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Laboratory Testing Results SAMPLE SAMPLE LABORATORY ID DEPTH CLASSIFICATION 0.0/7.5 *Lab visual classification based on gradation

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curve. No Atterberg limits.

SAJ FORM 1836 JUN 02

Boring Designation CP02-DL67E-TP-0009 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF | SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. FL) NAD83 VERTICAL US DOI Modified Waters to ENP L-67 Extension NGVD29 BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP02-DL67E-TP-0009 X = 809,063 Y = 587,280 Backhoe MANUAL HAMMER CONTRACTOR FILE NO DRILLING AGENCY UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAJ 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 H& H Land 14. ELEVATION GROUND WATER 4.6 Ft. DIRECTION OF BORING BEARING DEG. FROM COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 06-20-02 06-20-02 16. ELEVATION TOP OF BORING 6. THICKNESS OF OVERBURDEN 10.0 Ft. N/A 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 9.0 Ft. Steve Myers, Geologist SOX OR BLOWS ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 10.0 10.0 0.0 FILL, gravelly, mostly angular to subrounded fine to coarse gravel-sized limestone, little silt, few fine to coarse gravel-sized limestone, moist, brown Test Pit At El. 4.6 Ft. Wet PEAT, fibrous, black/brown (PT) 2 Test Pit 1.0 - 9.0 1.0 BORING TERMINATED IN REFUSAL NOTES: 10 1. USACE Jacksonville is the custodian for these original files. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Laboratory Testing Results SAMPLE SAMPLE LABORATORY DEPTH CLASSIFICATION 0.0/7 8 *Lab visual classification based on gradation curve. No Atterberg limits. SAJ FORM 1836 JUN 02

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Boring Designation CP02-DL67E-TP-0010 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. FL) NAD83 VERTICAL US DOI Modified Waters to ENP L-67 Extension NGVD29 BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP02-DL67E-TP-0010 X = 763,742 Y = 513,043 Backhoe MANUAL HAMMER CONTRACTOR FILE NO DRILLING AGENCY UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAJ 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 H& H Land 14. ELEVATION GROUND WATER 3.5 Ft. DIRECTION OF BORING BEARING DEG. FROM COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 06-11-02 06-11-02 16. ELEVATION TOP OF BORING 6. THICKNESS OF OVERBURDEN N/A 13:0 Ft. 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 10.0 Ft. Steve Myers, Geologist SOX OR BLOWS ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 13.0 13.0 0.0 FILL, sandy, some angular to subrounded fine to coarse-grained sand-sized carbonate, some gravel to boulder-sized limestone up to 3', little rounded fine-grained sand-sized quartz, little silt, dry, tan Test Pit PEAT, moist, fibrous, black (PT) LIMESTONE, hard, moderately weathered, 3.0 10.0 aphanitic, vuggy_brown/tan Abbreviations NR = Not Recorded. 1. USAGE Jacksonville is the custodian for these original files. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Laboratory Testing Results SAMPLE SAMPLE LABORATORY DEPTH CLASSIFICATION SAJ FORM 1836 JUN 02 (Continued)

Boring Designation CP02-DL67E-TP-0010 INSTALLATION **DRILLING LOG (Cont. Sheet)** Jacksonville District OF 2 SHEETS PROJECT COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL NAD83 NGVD29 US DOI Modified Waters to ENP State Plane, FLE (U.S. Ft.) ELEVATION TOP OF BORING LOCATION COORDINATES X = 763,74213.0 Ft. SAMPLE BLOWS/ N-VALUE CLASSIFICATION OF MATERIALS REMARKS *Lab visual classification based on gradation curve. No Atterberg limits. SAJ FORM 1836-A JUN 02

	LING	Loc	DIVISION		STALLA	7000		SHEET 1		
DRILLING LOG South Atlantic					Jacksonville District OF 2 SH				HEET	
US DOI Modified Waters to ENP					9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL					
L-67 Extension 2. BORING DESIGNATION LOGATION COORDINATES				+	State Plane, FLE (U.S. Ft.) NAD83 NGVD29 11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER					
CP02-DL67E-TP-0011 X = 763,955 Y = 507,074				11. MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER Backhoe MANUAL HAMMER						
DRILLING AGENCY CONTRACTOR FILE NO. Corps of Engineers - CESAJ				12.						
4. NAME OF DRILLER				13.	13. TOTAL NUMBER CORE BOXES ()					
H & H Land 5. DIRECTION OF BORING DEG. FROM BEARING				14.	14. ELEVATION GROUND WATER 3,1 Ft,					
5. DIRECTION OF BORING DEG. FROM BEARING VERTICAL INCLINED				15.	15. DATE BORING STARTED COMPLETED 06-11-02 06-11-02					
6. THICKNESS OF OVERBURDEN N/A					16. ELEVATION TOP OF BORING 12.3 Ft.					
7. DEPT	H DRILLE	D INTO	ROCK N/A			CREAT POST	VERY FOR BORING N/A			
a. TOTA	L DEPTH	OF BOF	RING 10.0 Ft.	18.			AND TITLE OF INSPECTOR ers. Geologist			
		0		1	_	_		3	-	
ELEV.	DEPTH	LEGEND	GLASSIFICATION OF MATERIALS		REC. XOB	ROD	REMARK	BLOWS,	M-VALUE	
12.3	0.0		FILL, sandy, mostly rounded fine-grained				12.3			
			coarse gravel-sized limestone, few cobble-sized limestone, strong reaction with HCI, moist, tan	2.	1		Test Pit			
4.6	7.8						4.6			
4.6	7.8 8.0		PEAT, few clay, black (PT) SAND, clayey, medium plasticity, soft, som	e		P	4.5 4.3 Test Pit	>	-	
4.6	7.8 8.0			e	2					
4.6 43			SAND, clayey, medium plasticity, soft, som rounded fine-grained sand-sized quartz, some clay, little silt, wet, gray (SC)	e ¥	2		4.3 Test Pit Test Pit			
4.6	7.8 8.0		SAND, clayey, medium plasticity, soft, som rounded fine-grained sand-sized quartz,	e .	2		4.3 Test Pit			
4.6			SAND, clayey, medium plasticity, soft, som rounded fine-grained sand-sized quartz, some clay, little silt, wet, gray (SC) LIMESTONE, hard, slightly weathered,	• ¥	2		4.3 Test Pit Test Pit			
4.6			SAND, clayey, medium plasticity, soft, som rounded fine-grained sand-sized quartz, some clay, little silt, wet, gray (SC) LIMESTONE, hard, slightly weathered, aphanitic, vuggy, brown	y	2		4.3 Test Pit Test Pit			
4.6			SAND, clayey, medium plasticity, soft, som rounded fine-grained sand-sized quartz, some clay, little silt, wet, gray (SC) LIMESTONE, hard, slightly weathered, aphanitic, vuggy, brown NOTES: 1. USACE Jacksonville is the custodian for	y	2		4.3 Test Pit Test Pit			
4.5			SAND, clayey, medium plasticity, soft, som rounded fine-grained sand-sized quartz, some clay, little silt, wet, gray (SC) LIMESTONE, hard, slightly weathered, aphanitic, vuggy, brown NOTES: 1. USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils	y	.2	0	4.3 Test Pit Test Pit			

Boring Designation CP02-DL67E-TP-0011 INSTALLATION **DRILLING LOG (Cont. Sheet)** Jacksonville District OF 2 SHEETS PROJECT COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL NAD83 NGVD29 US DOI Modified Waters to ENP State Plane, FLE (U.S. Ft.) ELEVATION TOP OF BORING LOCATION COORDINATES X = 763,955 Y = 507,074 12.3 Ft. SOX OR BLOWS/ N-VALUE CLASSIFICATION OF MATERIALS REMARKS *Lab visual classification based on gradation curve. No Atterberg limits. SAJ FORM 1836-A JUN 02

Boring Designation CP02-DL67E-TP-0012 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. FL) NAD83 VERTICAL US DOI Modified Waters to ENP L-67 Extension NGVD29 BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER X = 764,168 Y = 501,106 CP02-DL67E-TP-0012 Backhoe MANUAL HAMMER DRILLING AGENCY DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAJ 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 H& H Land 14. ELEVATION GROUND WATER DIRECTION OF BORING BEARING DEG. FROM COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 06-11-02 06-11-02 16. ELEVATION TOP OF BORING 6. THICKNESS OF OVERBURDEN 12.3 Ft. N/A 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 10.0 Ft. Steve Myers, Geologist SOX OR BLOWS ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 123 12.3 0.0 FILL, sandy, mostly rounded fine-grained sand-sized quartz, little subangular to rounded fine to coarse-grained sand-sized carbonate, few gravel to cobble-sized limestone, strong reaction with HCI, moist, tan Test Pit At El. 3.8 Ft., few silt, wet, gray LIMESTONE, hard, slightly weathered, 2.3 Test Pit 2.3 10.0 aphanitic, solid, yellowish 10 1. USACE Jacksonville is the custodian for these original files. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Laboratory Testing Results SAMPLE SAMPLE LABORATORY ID DEPTH CLASSIFICATION 0.0/9.5 SP* SAJ FORM 1836 JUN 02 (Continued)

Boring Designation CP02-DL67E-TP-0012 INSTALLATION **DRILLING LOG (Cont. Sheet)** Jacksonville District OF 2 SHEETS COORDINATE SYSTEM/DATUM PROJECT HORIZONTAL VERTICAL NAD83 NGVD29 US DOI Modified Waters to ENP State Plane, FLE (U.S. Ft.) ELEVATION TOP OF BORING LOCATION COORDINATES X = 764,168 Y = 501,106 12.3 Ft. SOX OR BLOWS/ N-VALUE CLASSIFICATION OF MATERIALS REMARKS DEPTH *Lab visual classification based on gradation curve. No Atterberg limits. SAJ FORM 1836-A JUN 02

Boring Designation CP02-DL67E-TP-0013 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF 2 SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. FL) NAD83 VERTICAL US DOI Modified Waters to ENP L-67 Extension NGVD29 BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP02-DL67E-TP-0013 X = 764,371 Y = 495,427 Backhoe MANUAL HAMMER CONTRACTOR FILE NO DRILLING AGENCY UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAJ 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 H& H Land 14. ELEVATION GROUND WATER 1.7 Ft. DIRECTION OF BORING BEARING DEG. FROM COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 06-11-02 06-11-02 16. ELEVATION TOP OF BORING 6. THICKNESS OF OVERBURDEN N/A 11.4 Ft. 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 10.0 Ft. Steve Myers, Geologist SOX OR BLOWS/ ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 11.4 11.4 0.0 FILL, sandy, mostly rounded fine-grained sand-sized quartz, some subrounded to rounded fine-grained sand-sized carbonate, little coarse gravel-sized limestone, few cobble-sized limestone, moist, light gray Test Pit PEAT, moist, fibrous, black (PT) Test Pit 2 10.0 ALE. 1.7 Ft., wet BORING TERMINATED IN REFUSAL 1. USACE Jacksonville is the custodian for these original files. Soils are field visually classified in accordance with the Unified Soils Classification System 3. Laboratory Testing Results SAMPLE DEPTH SAMPLE LABORATORY CLASSIFICATION SAJ FORM 1836 JUN 02 (Continued)

Boring Designation CP02-DL67E-TP-0013 INSTALLATION **DRILLING LOG (Cont. Sheet)** Jacksonville District OF 2 SHEETS PROJECT COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL NGVD29 US DOI Modified Waters to ENP State Plane, FLE (U.S. Ft.) NAD83 ELEVATION TOP OF BORING LOCATION COORDINATES X = 764.371 Y = 495.427 11.4 Ft. SOX OR BLOWS/ N-VALUE CLASSIFICATION OF MATERIALS REMARKS *Lab visual classification based on gradation curve. No Atterberg limits. -25SAJ FORM 1836-A JUN 02

Boring Designation CP02-DL67E-TP-0014 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District OF SHEETS 1. PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. FL) NAD83 VERTICAL US DOI Modified Waters to ENP L-67 Extension NGVD29 BORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP02-DL67E-TP-0014 X = 764,470 Y = 492,583 Backhoe MANUAL HAMMER CONTRACTOR FILE NO DRILLING AGENCY DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAJ 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES 0 H& H Land 14. ELEVATION GROUND WATER 2.6 Ft. DIRECTION OF BORING BEARING DEG. FROM STARTED COMPLETED VERTICAL INCLINED 15. DATE BORING 06-11-02 06-11-02 16. ELEVATION TOP OF BORING 6. THICKNESS OF OVERBURDEN N/A 11.4 Ft. 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 9.3 Ft. Steve Myers, Geologist SOX OR BLOWS ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 11.4 11.4 0.0 FILL, sandy, mostly rounded fine-grained sand-sized quartz, few angular to subrounded fine-grained sand-sized carbonate, few fine gravel-sized limestone, strong reaction with HCI, moist, tan Test Pit At El. 5.4 Ft., little cobble-sized limestone PEAT, wet, brown/black (PT) Test Pit 22 9.3 BORING TERMINATED IN REFUSAL 10 1. USACE Jacksonville is the custodian for these original files. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Laboratory Testing Results SAMPLE SAMPLE LABORATORY DEPTH ID 0.0/7.3 *Lab visual classification based on gradation SAJ FORM 1836 JUN 02 (Continued)

Boring Designation CP02-DL67E-TP-0014 INSTALLATION **DRILLING LOG (Cont. Sheet)** Jacksonville District OF 2 SHEETS PROJECT COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL NAD83 NGVD29 US DOI Modified Waters to ENP State Plane, FLE (U.S. Ft.) ELEVATION TOP OF BORING LOCATION COORDINATES X = 764,470 Y = 492,583 11.4 Ft. SOX OR BLOWS/ N-VALUE CLASSIFICATION OF MATERIALS REMARKS curve. No Atterberg limits. SAJ FORM 1836-A JUN 02



Boring Designation CP09-DCOMP-CB-0001 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District PROJECT 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. FL) NAD83 VERTICAL C&SF:CERP:WCA 3 Decomp Part 1 L-67A Vicinity NAVD88 ORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP09-DCOMP-CB-0001 Failing 1500 MANUAL HAMMER DRILLING AGENCY DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM 12 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES C. Brown 14. ELEVATION GROUND WATER 9.1 Ft. DIRECTION OF BORING DEG. FROM VERTICAL COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 07-01-09 07-01-09 16. ELEVATION TOP OF BORING 16,3 Ft. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK N/A 18. SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 17.6 Ft. Jerrell Hand, Geologist BOX OR SAMPLE ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 16.3 16.3 0.0 FILL, gravelly, few fine to coarse-grained sand-sized carbonate, few silt, trace organic matter, moist, 10YR 6/2 light brownish gray 6 SPT Sampler 12 20 8 14.8 5 53 2 SPT Sampler 5 13 8 6 3 SPT Sampler 3 9 6 1 2 47 SPT Sampler 5 10.3 5 SPT Sampler 3 2 8.8 3 47 6 SPT Sampler 5 13 8 SILT, organic-L, few peat, slightly fibrous, 10YR 2/1 black (OL) 2 60 SPT Sampler 2 10 5 2 SPT Sampler 67 8 10 18 8 40 9 SPT Sampler Advanced Boring 2 80 10 SPT Sampler 3 3 SAJ FORM 1836 JUN 02 (Continued)

Boring Designation CP09-DCOMP-CB-0001

DR	LLING	LOC	(Cont. Sheet)	Jacks	onville	Distr	ict		SHEET 2	HEETS
PROJEC	т		A SA	COORDIN		_	-	UM HORIZONTAL V	ERTICAL	
_			Decomp Part 1	_	Plane	_	_		NAVD88	
	ON COORD	INATE		ELEVATI		OF E	ORIN	0		
X=	Y≃	La		16.3	1	- with			~	w
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERI	ALS	REC.	SAMPLE	RGD OR UD	REMARKS	BLOWS/ 0,5 FT.	N-VALUE
10	15.3	TENT	LIMESTONE, hard, slightly weather	ared fine	1				6	-
	3	Day I	grained, 2.5YR 6/2 pale red	area, mie	67	11		SPT Sampler	10	1
	3				151			-0.2	20	30
	18				5.0			1220	9	
-1.3	17.6				45	12		SPT Sampler	0	1
1.30			ID DEPTH CLASSIF	ATORY CATION GM				140# hammer w/30" drop used v 2.0" split spoon (1-3/8" I.D. x 2" (with D.D.).	

Boring Designation CP09-DC0MP-CB-0002 DIVISION NSTALLATION DRILLING LOG South Atlantic Jacksonville District 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. Ft.) NAD83 VERTICAL C&SF:CERP:WCA 3 Decomp Part 1 L-67A Vicinity NAVD88 ORING DESIGNATION LOCATION COORDINATES MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP09-DCOMP-CB-0002 Failing 1500 MANUAL HAMMER DRILLING AGENCY DISTURBED UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM 11 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES C. Brown 14. ELEVATION GROUND WATER 9.7 Ft. DIRECTION OF BORING DEG. FROM VERTICAL COMPLETED STARTED VERTICAL INCLINED 15. DATE BORING 07-01-09 07-01-09 16. ELEVATION TOP OF BORING 16,2 Ft. THICKNESS OF OVERBURDEN N/A 17. TOTAL RECOVERY FOR BORING 7. DEPTH DRILLED INTO ROCK 18. SIGNATURE AND TITLE OF INSPECTOR 8. TOTAL DEPTH OF BORING 16.4 Ft. Jerrell Hand, Geologist BOX OR ROD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 16.2 16.2 0.0 FILL, gravelly, mostly carbonate, few fine to coarse-grained sand-sized carbonate, few silt, trace organic matter, moist, many hard 3 SPT Sampler 8 16 carbonate cobles and boulders too large to sample at surface, 10YR 7/1 light gray 8 14.7 47 2 SPT Sampler 7 0 13.2 8 67 3 SPT Sampler 4 9 5 2 33 SPT Sampler 10 16 6 10.2 25 5 SPT Sampler 6 20 14 8.7 7.5 SILT, organic-L, few peat, wet, slightly fibrous, 10YR 2/1 black (OL) 2 60 6 SPT Sampler 3 7 4 3 20 SPT Sampler 1 2 10 3 SPT Sampler 33 å 4 10 6 SPT Sampler 27 9 1 2 1 1 80 10 SPT Sampler 1 3 SAJ FORM 1836 JUN 02 (Continued)

Boring Designation CP09-DCOMP-CB-0002 INSTALLATION **DRILLING LOG (Cont. Sheet)** Jacksonville District OF 2 SHEETS PROJECT COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL C&SF:CERP:WCA 3 Decomp Part 1 State Plane, FLE (U.S. Ft.) NAD83 NAVD88 ELEVATION TOP OF BORING LOCATION COORDINATES 16.2 Ft. SAMPLE BLOWS/ N-VALUE CLASSIFICATION OF MATERIALS REMARKS 1 86 SPT Sampler 1 SILT, organic-L, medium plasticity, mostly silt, frace peat (OL) LIMESTONE, hard, slightly weathered, fine grained, 2.5YR 6/2 pale red 51+ 0.0 16.2 50/0.4 140# hammer w/30" drop used with 2.0' split spoon (1-3/8" I.D. x 2" O.D.). USACE Jacksonville is the custodian for these original files. Soils are field visually classified in accordance with the Unified Soils Classification System. 20 3. Laboratory Testing Results. SAMPLE LABORATORY DEPTH CLASSIFICATION SAMPLE ID 0.0/1.5 3.0/4.5 *Lab visual classification based on gradation curve. No Atterberg limits. 4. Additional Laboratory Testing Moisture Content Percent Organic Moisture Content 4 8 9 -25-30

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SAJ FORM 1836-A JUN 02

Boring Designation CP09-DCOMP-CB-0003 DIVISION INSTALLATION DRILLING LOG South Atlantic Jacksonville District OF SHEETS 9. SIZE AND TYPE OF BIT See Remarks 10. COORDINATE SYSTEM/DATUM HORIZONTAL
State Plane, FLE (U.S. FL) NAD83 VERTICAL C&SF:CERP:WCA 3 Decomp Part 1 L-67A Vicinity LOCATION COORDINATES NAVD88 BORING DESIGNATION MANUFACTURER'S DESIGNATION OF DRILL AUTO HAMMER CP09-DCOMP-CB-0003 Failing 1500 DRILLING AGENCY CONTRACTOR FILE N DISTURBE UNDISTURBED (UD) 12. TOTAL SAMPLES Corps of Engineers - CESAM 0 NAME OF DRILLER 13. TOTAL NUMBER CORE BOXES C. Brown 14. ELEVATION GROUND WATER 6.9 Ft. DIRECTION OF BORING BEARING DEG. FROM VERTICAL STARTED COMPLETED VERTICAL INCLINED 15. DATE BORING 07-02-09 07-02-09 THICKNESS OF OVERBURDEN 16. ELEVATION TOP OF BORING 6.9 Ft. N/A 7. DEPTH DRILLED INTO ROCK SIGNATURE AND TITLE OF INSPECTOR B. TOTAL DEPTH OF BORING 15.3 Ft. Jerrell Hand, Geologist BOX OR LEGEND RAD OR UD ELEV. DEPTH CLASSIFICATION OF MATERIALS REMARKS 6.9 0.0 6.9 SILT, organic-L, trace organic matter, wet, 10YR 2/1 black (OL) 3 3 0 SPT Sampler 5 2 1 SPT Sampler 1 2 1 1 NR 0 SPT Sampler 1 1 27 2 SPT Sampler 1 2 1 0.9 0.9 LIMESTONE, hard, weathered, fine grained, 23 pockets of organic and carbonate silt, 10YR 7/2 light gray 60 23 3 SPT Sampler 36 13 -0.6 9 50 4 SPT Sampler 12 At El. -1.1 Ft., hard, fine grained, porous, few solution channels, 2.5YR 8/1 white 50/0.1 4 x 5-1/2" Diamond Set Bit ROD DT = 39 mins HP = 300 psi 10 103 DFR = 100 % 4 x 5-1/2" Diamond Set Bit DT = 23 mins HP = 300 psi DFR = 100 % ROD 94 52 SAJ FORM 1836 JUN 02 (Continued)

Boring Designation CP09-DC0MP-CB-0003

INSTALLATION

Jacksonville District

GOORDINATE SYSTEMBATUM

HORIZONTAL

VERTICAL

ROJEC		04.2	Notice Body	COORDIN	ATE 5	STE	M/DAT	UM HORIZONTAL VERTIC	AL	HEETS
_	ON COORDI	_	Decomp Part 1	State i					/D88	
X=	Y=			6.9 Ft.	-	_	_			
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIA	ALS	REC.	BOX OR SAMPLE	RGD OR UD	REMARKS	BLOWS/ 0,6 FT.	N-VALUE
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DRILLING LOG (Cont. Sheet)

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Boring Designation CP09-DCOMP-CB-0004

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REPORT OF GEOTECHNICAL EXPLORATION

L30SMPP Additional Drilling TO#70 Miami, Florida Contract W912EP-05-D-0009 WOLF/WPC Project No. WPC6208.00036

- Prepared For -

U.S. Army Corp of Engineers Mr. Webster Shipley 701 San Marco Blvd, 3 East Jacksonville, FL 32207

- Prepared By -

WOLF/WPC 3047-4 St. Johns Bluff Road South Jacksonville, Florida 32246



December 11, 2008

Mr. Webster Shipley U.S. Army Corps of Engineers 701 San Marco Boulevard, 3 East Jacksonville, Florida 32207

Final Conceptual Geotechnical Data Report L30SMPP Additional Drilling Contract W912EP-05-D-0009 Miami-Dade County, Florida WOLF/WPC Project No. WPC6208.00036

Dear Mr. Shipley:

WOLF/WPC has performed the additional field and laboratory geotechnical services for the L30 Seepage Management Pilot Project (SMPP). This conceptual report presents our understanding of the project, outlines our exploratory procedures, and presents the field and laboratory data obtained for the project.

We have enjoyed assisting you on this project and look forward to serving as your geotechnical consultant on the remainder of this project and on future projects. If you have any questions concerning this report, please contact us.

Respectfully Submitted, WOLF/WPC

Jason R. Mckinnon, P.E.

Project Engineer

Registered, Florida No. 58696

Thomas J Casey, P.E.

Senior Geotechnical Engineer Registered, Florida No. 62245

Distribution: U.S. Army Corps of Engineers (3)

File (1)

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APPENDICES

APPENDIX A

Site Location Map Field Exploration Plan

APPENDIX B

Drilling Logs for SPT Borings Photographs

APPENDIX C

Summary of Laboratory Testing Results



SECTION 1.0 - INVESTIGATION SCOPE

The scope of services for this investigation was provided in the statement of work (SOW) dated February 6, 2008, and was performed under the existing contract W912EP-05-D-0009. The requested field scope of services for this investigation included performing three (3) Standard Penetration Test (SPT) borings with rock coring. The laboratory testing scope of services included performing miscellaneous classification and index property tests, including unconfined compressive strength, visual shell content, and specific gravity determinations.

The project site is shown on the Site Location Map and Field Exploration Plan in Appendix A of this report. The depth of the SPT borings was 90 feet below the existing ground surface, or approximate elevation EL. -76.0. Laboratory classification and index property testing was assigned by Mr. Shipley following review of preliminary field drilling logs.

SECTION 2.0 - INVESTIGATION PURPOSE

The purpose of the exploratory drilling is to identify subsurface conditions in the right-of-way of the access road adjacent to the Canal L-30 Levee. The project is located west of Miami in Miami-Dade County near the intersection of Krome Avenue and Highway 41.

SECTION 3.0 - GEOLOGICAL SETTING

The Biscayne Aquifer is composed of Miami Limestone and the Fort Thompson Formation. The Miami Limestone is typically characterized as soft to moderately hard, moderately to highly weathered, thick bedded, highly burrowed in the project area, white to yellow, and contains abundant solution cavities. In the uppermost part of the Miami Limestone, the solution cavities are commonly filled with loose quartz sand and peat. The Fort Thompson Formation lies unconformably beneath the Miami Limestone and is comprised of thick units of soft to hard, moderately weathered, light gray, limestone and sandy limestone that contains marine fossils and calcareous sandstone with a few thin beds of fresh water limestone. In the Project area, the Fort Thompson Formation commonly has zones that contain many vugs and much less commonly can contain cavities up to several feet in diameter.

The Pinecrest Sand Member of the Tamiami Formation creates a semi-confining unit within the Surficial Aquifer System. It lies unconformably beneath the Fort Thompson



Formation and is commonly comprised of quartz sand, limestone, and sandstone that is moderately hard and creamy white to greenish gray with uncommon soft layers of silty, clayey, and shelly sands. A grey limestone, also known as the Ochopee Limestone Member of the Tamiami Formation, lies unconformably below the Pinecrest Sand Member.

SECTION 4.0 – FIELD EXPLORATION

4.1 General

The field exploration conducted for this investigation included performing three (3) SPT borings with rock coring at locations specified by the U.S. Army Corps of Engineers (USACE).

Exploration point coordinates (Latitude and Longitude) were provided by USACE. The exploration points were initially laid out using a Trimble GeoXH handheld GPS device. We also converted the Latitude and Longitudes to State Plane Coordinates using the conversion program CORPSCON. The following table summarizes the exploration locations and depths:

LOCATION COORDINATES **EXPLORATION** DATE POINT NAME NORTHING EASTING LATITUDE LONGITUDE DEPTH, FEET PERFORMED (Y) (X) 523,542 825,597 25° 46 23.04 80° 29 09.68 90 CP07-L30PP-CB-0007 5/22/08 CP07-L30PP-CB-0008 523,820 825,595 80° 29 06.51 25° 46 25.79 90 5/21/08 CP07-L30PP-CB-0009 524,095 80° 29 03.32 825,886 25° 46 28.5 89 5/15/08

Table 4.1-Summary of Exploration Point Locations and Depths

4.2 SPT Borings

The borings utilized Standard Penetration Test (SPT) split spoon sampling (ASTM D 1586) conducted continuously with 1.5-foot sample intervals in the upper 20 feet. The borings were advanced using mud rotary drilling process using recirculated drilling slurry to stabilize the borehole walls and flush the cuttings. Once the borings reached about 20 feet, the holes were reamed and widened and casing was set in the boreholes to maintain stability within the dike soils. The borings were then advanced thru intact limestone layers using a 5-foot long core barrel. Rock coring continued to depths ranging from 73.5 feet to 75 feet below the existing ground surface, then the split-spoon sampler was re-attached and continuous SPT sampling resumed to the termination depth of the borings. Once the borings were completed, they were airlifted with a compressed air



hose to remove excess sand from the borehole.

At the completion of each boring, geophysical logging was performed by personnel from the United States Geological Survey (USGS) on each borehole. The SPT boring Drilling Logs are presented in Appendix B of this report.

SECTION 5.0 - LABORATORY TESTING

Following review of the preliminary field logs, Mr. Shipley assigned several laboratory tests on samples obtained from the drilling operation. The laboratory testing conducted for this exploration included the following:

- 3 Visual Percent Shell Content
- 3 Specific Gravity Determinations for Rock (ASTM D 854)
- 3 Unconfined Compressive Strength Tests for Rock (ASTM D 2938-95)

The results of the laboratory testing and index property testing are presented in Appendix C of this report.

SECTION 6.0 - SUBSURFACE PROFILE

The encountered soils were classified using the Unified Soil Classification System (USCS) in general accordance with ASTM D 2488. The subsurface conditions encountered at the site generally consisted of mixed levee fill materials consisting of sands (SP/SM), clay (CH), silt (ML), and/or limestone gravel (GP) to depths ranging from about 16 feet to 17 feet, at which point a thin layer (1 foot to 1.5 feet thick) of organic peat (PT) was encountered. The borings then generally encountered limestone to depths ranging from about 73.5 feet to 75 feet below ground surface. Below the intact limestone layers, the borings generally encountered sands (SP), silty sands (SM), silts (ML), clay (CH), sand-gravel mixtures (GP), and clay-limestone gravel mixtures (GC) to the termination depth of 89 feet to 90 feet below ground surface. SPT N-values generally ranged from very loose to very dense throughout the subsurface profiles.

The groundwater level was encountered by the SPT borings at depths of approximately 18 feet below the existing ground surface. It should be noted that groundwater levels will fluctuate due to seasonal rainfall fluctuations, distance to relief points or water features, soil drainage characteristics, and construction operations.



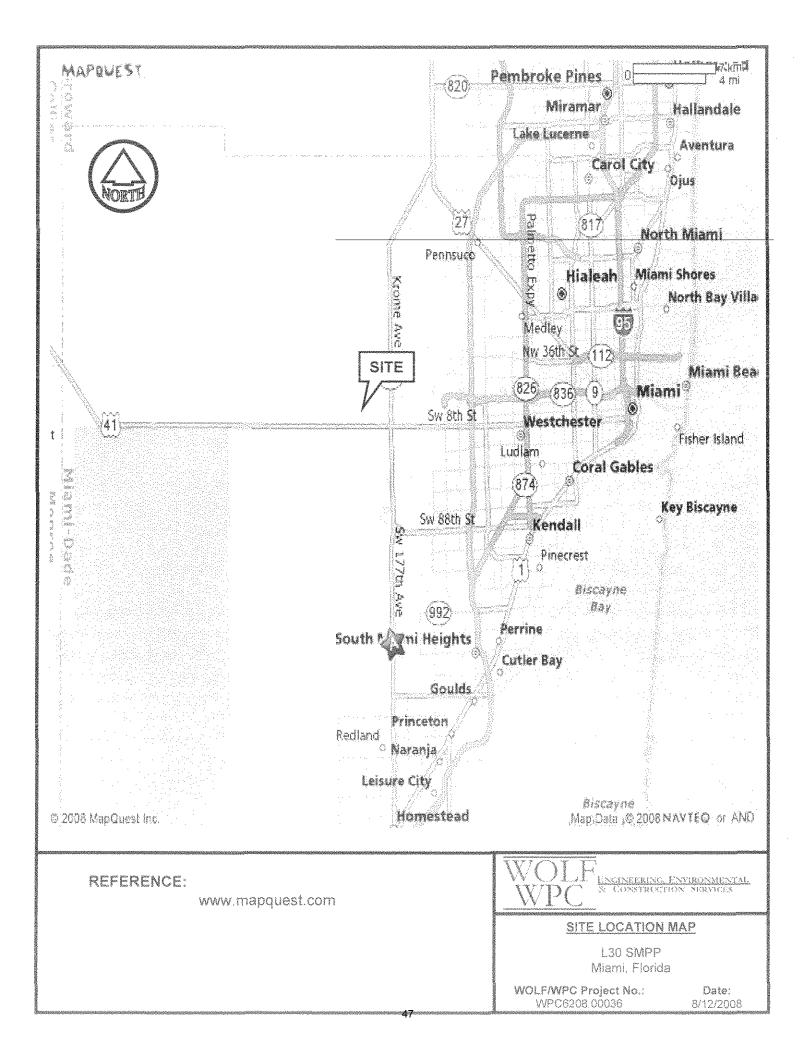
APPENDICES



APPENDIX A

- Site Location Map
- Field Exploration Plan





CP06-L30PP-CB-0001 9-335 CP07-L30PP-CB-0007 CP07-L30PP-GB-0008 CP07-L30PP-CB-0009 L-30 levee & TAN COM right-of-way GP06-L30PP-GB-0002 Tamlami Trall (US 41) 5-334 Figure 1: Boring and Well Locations

REFERENCE: ACOE SOW



ENGINEERING, ENVIRONMENTAL, S. CONSTRUCTION SERVICES

FIELD EXPLORATION PLAN

L30 SMPP Miami, Florida

WOLF/WPC Project No.: VVPC6208.00036 Date: 8/12/2008

APPENDIX B

- Drilling Logs for SPT Borings
- * Photographs



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	and the second	出			uceson.	- Constitution of the Cons	A Principal A	over services				-
X		FI			dynamathe	erament.	ACA CARDICINA					To the second
		崗			Table 1		-	-59.5			-	
					AND-MARKET	-	Necessary.				5	
		臣			33	25	*TuZdelines	Zirana ziran	SPT S	Sampler		10
-61.0	75.0	لثثا			overeine.	· Charles	A A S A S A S A S A S A S A S A S A S A	-61.0			5	10
	ORIVI 18	description.		***************************************	-	å	ก็แผงของจาก	โดยเหมีย์เมื่อเมื่อวิทัยเมเม	NAMES OF THE PARTY	************	This the Grant All Control of the Co	embecenmous

8/8/E	LLING	LO	3 (Cont. Sheet)	INSTALLA Jackso		Distr	ict			or 5	SHEETS
PROJEC	L-18 - 3	ALL DETERMINED THE		COORDINA	TE S	STE	A/DAT	UM !	IORIZONTAL	VERTICAL	
L-30	Seepage	Mana	gement Pilot Project	State F	lane,	FLE	(U.S.	Ft.)	NAD83	NAVD8	3
LOCATI	ON COORD	INATE	.	ELEVATIO	N TOP	OF B	ORIN	G			
) = X	325,597	Y ≈ 5	23,542	14.0 F1		pamanenana	monor	on and the second secon			
elev.	DEPTH	LEGEND	CLASSIFICATION OF MATERIA	LS	₩ REG.	SAMPLE SAMPLE	ROD OR UD		REMARKS		O.5 FT.
			SAND, poorly-graded, medium den mostly subangular medium to							4	
			coarse-grained sand-sized quartz, I 5Y 6/3 pale olive (SP)	ittie sneii,	93	26		-62.5	SPT Sampi	ler 10	 20
					60	27			SPT Sampl	3 er	
								-64.0			
-64.5 -65.0	78.5 79.0		GRAVEL, poorly-graded, medium d , little medium-grained sand-sized qu	ense, artz.	133	28	D. Color		SPT Samp	4	
-66.0	80.0		\5Y 6/3 pale olive (GP) CLAY, fat, stiff, few fine to coarse gravel-sized limestone, few quartz,	/				-65.5	immestabobohaboltmesmestalishetmesidenmestalimmestalimmestalishe		
			5Y 6/3 pale olive (CH) SILT, inorganic-L, stiff to firm, little of fine-grained sand-sized quartz, few	day, few	20	29			SPT Samp	************	27
			5Y 6/3 pale olive (ML)	Sieil,				-67.0		21	
***************************************					93	30		-68.5	SPT Samp	ler 5	11
A PORT OF THE PROPERTY OF THE					33	31			SPT Samp	4 ler 5	
enere presentation of the second						***************************************		-70.0			
аления ченеренералу ученера					33	32			SPT Samp	and the second second	5
-71.5	85.5		SAND, silty, dense, mostly fine to coarse-grained sand-sized quartz, li	ittle cili				-71.5		3 4:	
-73.0	87.0		few shell, trace clay, 5Y 6/3 pale of		67	33		-73.0	SPT Samp	ler <u>2</u>	47
ANNIH PERMANANANANANANANANANANANANANANANANANANAN	1991 (memorina periodemanti international memorina memor		SAND, poorly-graded, dense, mosti coarse-grained sand-sized quartz, f 5Y 6/3 pale olive (SP)		CD CD	34		-74.5	SPT Samp	2 ler	0 43
~76.0	90.0				CC)	35		-76.0	SPT Samp	1: ler 1: 2	5 43
		мификальными како компонительной компонительном компонительной компонительной компонительной компонительной ко	NOTES: 1. Soils are field visually classified in accordance with the Unified Soils Classification System. 2. Additional Laboratory Testing Specific Gravity	n	edilmenentekontaktuura kerintekontaktuura kantaisen kant			140# ham	mer w/30" drop use poon (1-3/8" l.D. x		

SAJ FORM 1836-A JUN 02

ENG. 1892-13		***********	DIVISION	INSTA	LATI	ON			SHEET	
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. PRO			Disk Dwalmet	1			e of bit See system/datum	Remarks HORIZONTAL	VERTICAL	delahamasassa
1_	-30 Zeeba	ge Ma	anagement Pilot Project	19. 4			ne, FLE (U.S. Ft.)	1	NAVD8	0
. BOR	ING DESIGN	VATIO	N LOCATION COORDINATES	11. M	*********		RER'S DESIGNATIO	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	AUTO HAMME	**********
	P07-L30P		0008 X = 825,595 Y = 523,820					图	Manual ham	MER
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	mdrill E OF DRILL	.ER	200 - 100 -	1	00000000000000000000000000000000000000			22	Û	*** **********************************
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	CTION OF	BORIN	G DEG. FROM BEARING	14. E	EVAT	ION C	round water	-4.0 Ft.	COMPLETE	incimmente com
	VERTICAL INCLINED		\$ \$ \$ \$ \$ \$	15. D	ate B	ORING	3	05-15-08	05-16-0	
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. TOT	AL DEPTH ()F BOR	ting 90.0 Ft.		กลุกของวัดเกรเลก	Holr	nes.	· · · · · · · · · · · · · · · · · · ·		MACON CONTRACTOR
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- Continues	-		SILT, inorganic-L, very stiff to stiff, Levee Fi material, 10YR 7/3 very pale brown (ML)						22	
Wardingula	W/	11	, , , , , , , , , , , , , , , , , , , ,	30	1	ovenenove ovenenove		SPT Sampler	17	29
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òrouedoso	···						hayan da	kirintii uuruska kanaarrak asiimiin uusimmiinii mara siimiitiin uuruska uuruska	9	
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9.5	4.5	ЩЩ	SAND, poorly-graded, medium dense,		-		9.5	innaaninemisiniimismisaanaansaansa		
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Ì	~		coarse-grained sand-sized quartz, 10YR 6/3 pale brown (SP)	65	4	and the same of th	Di Contentina	SPT Sampler	5	13
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rikusetku	u.		dense, few subangular to subrounded	on the contract of		og Department of the Communication of the Communica			4	
robinaki			coarse-grained sand-sized quartz, 10YR 6/3 pale brown (GP)	50	5			SPT Sampler	4	8
	·		1011(000 paid 2) ann (01)		No.	Vicinimizera	6.5		4	
	_			***************************************	NAME OF TAXABLE PARTY O	- Control			3	
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domedina			At El. 5.0 Ft., loose to medium dense, little quartz, 10YR 6/3 pale brown	***************************************	- Constitution of the Cons	944			5	
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ŀ	-			50	8	Caraller Constant		SPT Sampler	5	- Annual Property of the Control of
2	- * 490			and de company of the	5	Na Kriegopiya	20	un i un serviges ser	7	12
2.0	12.0	Ħ	LIMESTONE, hard, 10YR 8/2 very pale	- Live	ļ	et/vec(alpaire	2.0		* ************************************	
			brown	A AL		mesk-rutig		277 EN 170 - 275 5 5 5 5 5 5 5	***************************************	and the same of th
	· 	始日		10	9	Variable of the control of the con	A	SPT Sampler	4	3
Ì			SAt El. 0.5 Ft., 10YR 8/2 very pale brown	New Additional Printers		***************************************	0.5		2	ļ
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į.				30	10	A		SPT Sampler	6	10
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DRI	ILLIN	S LO	G (Cont. Sheet)	instatta Jackso		Distr	ict			ž.	SHEET 2 OF 5 SH	IEETS
PROJEC	o T			COORDIN	NOSCEPHINAS		CONTROL CONTROL	UM	HORIZONTAL		rigal	
		e Mana	gement Pilot Project	State f					NAD83	ā	AVD88	
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ELEV.	DEPTH	QN3937	CLASSIFICATION OF MATER	iāls	REG	SOX OR	ROD OR UD		表面對於	KS	SLOWS/ 0.5 PT.	MVALUE
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		量	All representations of the second of the sec		25	11			SPT Sam	pier	2	4
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-3.5	17.5		PEAT, stiff (PT)		80	12			SPT San	noler	18	and
-3.5	17.5		LIMESTONE, 10YR 7/1 light gray		- Francis	1		4.0	- · · · · · ·	** - 47	30	48
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on and company of the		一世	At El6.0 Ft., sparsely fossiliferou	is	-			-6.0				
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3		臣	and the second s		***************************************	***************************************						
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t-disustrytyse		崫	10YR 7/1 light gray		55m24644034	Name and American						
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-17.0	31.0	崫			gravitamean.	NAME OF THE PARTY						ALL PROPERTY OF THE PROPERTY O
		A TIT	LIMESTONE, very soft, highly we	athered.	***************************************	Character Control						- Control of the Cont
-17.5	31.5	H	10YR 7/1 light gray LIMESTONE, fossiliferous, hard,		guary, Account	III de contractor de contracto						
Havenine		上	10YR 7/1 light gray		A Characteristic Control	N. Osenski dove of C						
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ny mag langulophole		ÉEE			economic and a contract of the	of present the second						· · · · · · · · · · · · · · · · · · ·
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			LIMESTONE, fossiliferous, hard, t	Jnconfined	haces and			-21 0				vectorshors
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DRI	ILLING	LOC	i (Cont. Sheet)	Jackso	TION Onville	Distr	ict			•	et 3 5 Sh	EETS
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		Manag	gement Pilot Project	State					NAD83	NAVE	286	
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X = 8	325,595	Y = 5	23,820	14.0 F	t.	~~~					200	
ELEV.	DEPTH	CKGEND	CLASSIFICATION OF MATER	IALS	REC.	SAMPLE	RQD OR UD		remari	(\$	91.0% 0.5 PT.	N.VALUE
			Compression test on sample from	35 - 40	1	<u> </u>				in and a state of the state of		
Š		1	feet, 10YR 7/1 light gray		-	- thriseaster	A CONTRACTOR OF THE CONTRACTOR					
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-22.5	36,5		1 28 A =		***************************************	intervenia.	and the same of th					
			YLIMESTONE, soft, highly weather	ea	NA WILLIAM STATE OF THE STATE O	Property of the last of the la	diction amounts					
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		I T					economic services					
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-26.0	40.0	ITI		and the second s		<u> </u>		-26.0		***************************************	***************	
			LIMESTONE, fossiliferous, hard, 2.5YR 8/2 pinkish white		Serverine S.							
		聞	were the building and		Messacons	**************************************						
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*Homograph		岡			Populari Pop	¥						
		開却			reason Noval		Harrison II					
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		Į			None and a second	18	43					
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	,				Henrich	**************************************	NAME OF THE OWNER, WHEN THE OW					
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		對			network profession	 		-31.0	motivistamidastatinin mitmatildat dilannan nantitistinan nannan sanat	ouver extensionie de sinae extensione extensione extensionie extensionie extensionie extensionie extensionie e	manlarini, mumini arinisista	-
	-	Щ			bolesmy before	***************************************	electrical management of the second					
	3	ĪЩ			Windstein	* and or find	*Appellulation *					
					Budding	reprinted	A					
		開閉	At El32.5 Ft., large marine fossi	ls grading	Proposition in the Control of the Co	alestrates pai	N/Pa tolesionado					
T Personal			to smaller with depth		Approximately	1	L					
Adecounty					85	19	RQD 57					
-34.0	48.0	岸	TIMESTONE noticable burrowing	increasing		***************************************	and the same					
		囲	LIMESTONE, noticable burrowing with depth, 2.5YR 8/2 pinkish whit	(8 	NAMES AND ASSESSED.	700000	***************************************					
ryanamata Fr					Parameter and		CATHAGAINA					
and a second					emean Herper	Name of Street	with the second					***************************************
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1		쁘			bit we design the second	naky degler).	Prof p Librarian					Pelosislamo
					divergent	Andreading	YALONG GARAGE					1
-38.0	52.0				domestic	-						***************************************
		LII	*LIMESTONE, soft, decreasing fos burrows, 2.5YR 8/3 pink	sils and		BOX	RQD					
00000000		LII	buniows, 2.3 in ora pain		60	20	26					III was a san a sa
A LOCKESSANI O		ITI			Amategye	*Notoral Board (d)	***************************************					
operation (Con-		7 7 7			Vijadaliyolas)	Management	Angelowe					NAME OF TAXABLE PARTY.
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DRIL	LING	LOC	G (Cont. Sheet)	INSTALLA Jackso		Distr	ict		ą.	HEET 4	(EETS
ROJECT		iokie Sassierosa		COORDINA	N-Control Control Control	SERVICIONS	-	um Horizontal	VERT		Search Ann Search Search
The state of the s	process recognision of	STATISTICS OF THE PARTY OF THE	gement Pilot Project	State F	lane,	FLE	(U.S.	. Ft.) NAD83	NA .	WD88	***************************************
	N COORD			ELEVATIO		OFE	ORIN	G			
X = 82	25,595	1	23,820	14.0 FI	i. Vinenament	yanawaikin	William March				riikenasusaana ISA
ELEV.	Depth	CHGEND	Classification of Materia	LS	REC.	BOX OR SAMPLE	ROD OK UD	А БМЗЯ	RKS	BLOWS/ 0.5 FT.	N.VALUE
-43.0	57.0		LIMESTONE, hard, numerous mari At El46.0 Ft., fossiliferous At El48.0 Ft., grading to mudston- sand increasing with depth		85	BOX 21	RQD 32 RQD 18	-46.0			
-56 C	70.0					BOX 23	RQD 28	-51.0 -56.0			
	PRM 18		SAND, poorly-graded, 10Y 8/1 light gray (SP) At E1, -59.0 Ft., few fine to coarse-g sand-sized shell, 10Y 8/1 light gree	rained		The second conservation and th		-6.1.0		vesh1050318446666h	estantidativismentianatum menentalamanaman territoria territoria (monoto territoria (monoto monoto territoria)

DRI	LLING	LO	3 (Cont. Sheet)	INSTALLA Jackso		Distr	ict		SHEET : OF 5 :	
PROJEC		6 &		GOORDINA				f	VERTICAL	
	Seepage on coord	*	gement Pilot Project	State P	NEW AND PROPERTY OF				NAVD88	
			s 23,820	14.0 Ft		OFE	ORIN	€ .		
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIA		% REC.	BOX OR SAMPLE	ROD OR Ub	REMARKS	ŽĖ.	N-VALUE
	**************************************	•	At El61.0 Ft., loose to medium de 5G 8/2 pale green	inse,	†		<u> </u>		9	T
000000			ag evs hale Alegii		50	25	road minimum	SPT Sampl	er 5	
NIT CONTRACTOR					or a section of the s			-62,5	5	10
-63.0	77.0							and the second s	7	
-63.5	77.5		SAND, clayey, loose (SC)		85	26	direction de la constitución de	SPT Sampl	er 8	— 19
		* * *	SAND, poorly-graded, medium den shell (SP)	se, few		distribution and the second		-64.0	11	19
		, x	` /		arional transition		riman de la company		7	
900 metable					50	27	and of the control of	SPT Sampl	er 10	24
Nasi Kiriman		7 ¢ ×				malmouninta	- Carrier Contraction	-65.5	14	27
-66.0	80.0						OLE PER PER PER PER PER PER PER PER PER PE		4	
-66.5	80.5	management of the second secon			90	28		SPT Sampl	er <u>9</u>	_ 23
o Deservous su s			SAND, poorly-graded, medium den 10Y 3/1 dark greenish gray (SP)	se,		ļ		-67.0	14	
-			yar ar asin gradinan gigi (ar)		-	and the same of th	9		10	
l		- * * *			90	29		SPT Sampl		22
and the same of th								-68.5	41	
		.,,,							3	-
-					90	30	dividend	SPT Sampl	nidonillelininaemalieni	16
								-70.0	10	
-70.5	84.5	hii	SAND, siity, medium dense, 10Y 3/	1 dark	nageria				5	_
		distance of the state of the st	greenish gray (SM)	, 4,4,1,1	95	31	i constant	SPT Sampl		22
			,			***********	m incompanie	-71.5	12	
***************************************		100	At El72.0 Ft., loose to medium de	nse.	95	20	enidente de la constante de la	077 0	2	_
**************************************			10Y 3/1 dark greenish gray		30	32	-	SPT Sampl	er <u>3</u> 7	10
To the second second								-73.0		
					100	53		SPT Sampl	6 er 5	
***		di constanti			100	20		•	5	10
								~74.5	inerical research distribution of the second	
-					100	34		SPT Sampl	***************************************	-
-76.0	90.0								8	14
	30.0		NOTES:					76.0 140# hammer w/30" drop use 2.0' split spoon (1-3/8" I.D. x :	d with	
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7. DEP	TH DRILLEI	D INTO	ROCK N	V/A	***************************************	17. T	JYAL	RECO'	VERY FOR BORING	53 %	**************************	imi Arimin dan kalan	
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SAJ FORM 1836

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1	-		From El16.0 to -21.0 Ft., weather	ed,	West of the Section 1997	-	†	- 10.0				- Atagoraphia
Sample	â	門井	vuggy, vugs filled with calcite sand	s, white	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	CPA TOWNS	meant possine.	edek-Webs				appropriates
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SAJ FORM 1836-A

			(Cont. Sheet)	Jacksonville District OF 5 SH COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL								
PROJEC		h x		1					HORIZONTAL	VERTICAL		
	enikalasia ekerkitakan kakakiak ak	institutionistinkultinai	ement Pilot Project	State F	19275-Street	NAMES OF TAXABLE PARTY.	ceasejes-senigh	kilonenenny gyvodony yvodiyy (eraban)	L NAD83	! NAVD88	TO THE PERSON NAMED IN COLUMN TO THE	
	<mark>on coord</mark> 325,886	Y = 52		ELEVATIO 14.0 FI		· UF S	ONIN	LÇE				
	223,000	4		177.011								
elev.	DEPTH	LEGEND	CLASSIFICATION OF MATERIA		REC.	SAMPLE	ROD OD UD		REMARKS	BLOWS/ 0.5 FT.	N-VALUE	
-31.0	45.0		From Et26.0 to -31.0 Ft., weather vuggy, sparite in vugs, shell molds a shells, Unconfined Compression tessample from 38 - 40 feet, 10YR 7/1 LIMESTONE, moderately hard, weather vugs and shell molds, hard, weather vuggy, sparite in vugs, white	ed, and some st on light gray	90	BOX 17	RQD 68 RQD 73	-31.0	REMARKS		W-AW	
					(L)	minimum de	Windowsky Communication of the					
Weener		1177			4400	Acceptor	ego.	-41.0			40000	

DRI	LLIN	G	LO	3 (Cont. Sheet)	INSTALLA Jackso		Distr	ict			1	EST 4 5 SSH	EETS	
PROJEC	i.i.e.				COORDIN	instruction in the second	SANSKA SANSKA	CONTRACTOR OF THE	.nw	HORIZONTAL	VERTICA	i.	Market Market	
L-30	Seepa	gelt	Mana	gement Pilot Project	State F	lane,	FLE	(U.S.	Ft.)	NAD83	NAV.	288		
LOCATIO		- 1			Ī	ELEVATION TOP OF BORING								
X = 8	325,886		Y = 5	24,095	14.0 F	-			_	***************************************				
ELEV.	DEPT	and the second s	LECEND	classification of materi	ALS	REC.	BOXOR	ROD OR UD	THE THE PROPERTY OF THE PROPER	REMARK		SLOWS 0.5 FT.	N-VALUE	
			ΪÎ	뚜rom El41.0 to -46.0 Ft., very vu	iggy, shell	Ŷ~		haraxenous	***************************************					
		AAA, TRAKAA MINIMININI MAMAAA AAA AAAAAAAAAAAAAAA	TEFFEREE SEEFEE	molds and marine fossils, white		acconditional company and a second company and a se			Automoreasante de la companie de la				er de	
		A CONTRACTOR OF THE PROPERTY O	TITITITITITITITITITITITITITITITITITITI	From El46.0 to -51.0 Ft., vuggy, shell and sparite, white	some	reministrativamenta mentra		Q Q	-46.0 -51.0		*			
			TIPLICATE FIREFIELD FOR THE FIRE FOR THE FIRE FOR THE FIRE FOR THE FIRE FOR THE FOR TH	`From El51.0 to -56.0 Ft., very νι shells and sparite, pinkish-tan	iggy, some	To the contract of the contrac	and the second s		The contract					
-60.0	74.0	The second of th		From Et56.0 to -60.0 Ft., somew shell molds and sparite, light tan	rhat vuggy,		entriche frank de production de construction d	TO SO THE PROPERTY OF THE PROP				**************************************		
7/2.0	. 77.74	~	, , , , ,	GRAVEL, poorly-graded, dense, r	nostly	Andrew in the last of the last		†			***************************************	14		
- 1				fine-grained sand-sized quartz, so coarse gravel-sized limestone, ligi	me fine to	60	24	-	manage and a second	SPT Sam	pler -	16	-	

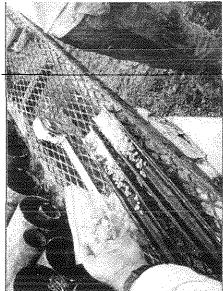
SAJ FORM 1836-A JUN 92

UKI	LLING	LO	3 (Cont. Sheet)	INSTALLA Jackso		Distr	ict	Jacksonville District							
PROJEC	. A.			COORDIN	ATE S	STE	M/DAT	UM	HORIZONTAL	VERTICAL					
L-30	Seepage	Mana	gement Pllot Project	State f	Plane,	FLE	(U.S.	. Ft.)	NAD83	NA)	/D88	· · · · · · · · · · · · · · · · · · ·			
	ON COORD			ELEVATIO		OF	ORIN	G							
X = 8	325,886	-	24,095 •	14.0 F	t		******			Na Santana da mari					
ELEV.	DEPTH	LEGEND	Classification of Materia	LS	REC.	ROX OR SAMPLE	ROD CR UD		Remarks		8.10 WS/ 0.5 FT.	N.VALUE			
		4	(GP)		160	24		-61.5	SPT Sample	er er	24	40			
***************************************			From El61.5 to -63.0 Ft.; dense, s	ome fine					die wennet when by weitingen of this time of province to a removilient framework from freque pass, of province		8	<u> </u>			
neconstant,			to coarse gravel-sized limestone, lig	iht gray	60	26			SPT Sample	ar -	15				
Sockowanies							open and the second	62.0		-	24	39			
element		4	From El63.0 to -64.5 Ft., dense, s	ome	-			-63.0	\$		10	-			
			subangular to subrounded fine to co gravel-sized limestone, light gray	arse	50	27			SPT Sample	- -	19				
***************************************			graver once mreetone, ign gray		30	Sec. 1			or roampre		12	31			
Motorship			From El64.5 to -66.0 Ft., medium	dense.		-		-64.5				ļ			
and of the same			light gray	,	1	00			A 77 A	-	11				
woodden week					90	28			SPT Sample	31	14	25			
-66.0	80.0	1000	GRAVEL, clayey, medium dense to	dense	-			-66.0		//************************************	11				
***************************************		11/16	some subrounded fine-grained sand								5				
MAY(04/00/18)			quartz, gray (GC)		90	29			SPT Sample	er .	7	18			
ndsmeraves								-67.5	sin, minutest UU Sides Demilhikisin demmeriya deminin sinimase ed Dei Sidet Leerlikin		11	-			
Ostaniani					School .						6	- Appendix			
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						***************************************		-69.0			10				
Strokheside					Service de la constante de la						-y /				
Antimeter)					80	31			SPT Sample	er	14	32			
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PAMAMANA					alemiales						6	· · · · · · · · · · · · · · · · · · ·			
Marga Weller					80	32			SPT Sample	er	12	25			
imbenichen								-72.0			13	20			
agree Autopage			From El72.0 to -75.0 Ft., dense to dense, some subrounded fine-grain								8	-			
141.00mm#40			sand-sized quartz, some shell, gray		60	33			SPT Sample	er .	15	25			
bhevillessee								-73.5		-	18	33			
na.commensee								***************************************		-000-00k1	5				
WalleyWidela						34			SPT Sample	er -	7				
-75.0	89.0				OXX			-75.0			9	16			
		72284	NOTES:	*****************		Derichia de Australia	e 10000 kar la Dahalia	dentellierenibileltärelbentesensolu	mmer w/30" drop use	d with		-			
ideath the display		Mediconnec			**************************************			2.0' split	spoon (1-3/8" I.D. x 2	2" Ö.D.)					
decembel printermilites (Associated			 Soils are field visually classified in accordance with the Unified Soils Classification System. 	n	меньорография			Abbrevia NR =	ations: Not Recorded.			ALIAN ANALISA			
discontinuous.		eterreliando.	Additional Laboratory Testing		coverdentarion con							***************************************			
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CP07-L30PP-CB-0007 Sample

CP07-1,30PP-CB-0007 Sample 1



CP07-L30PP-CB-0007 Sample 4

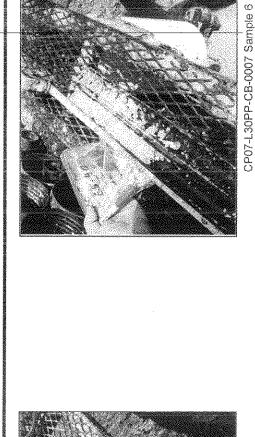
CP07-L30PP-CB-0007 Sample 3



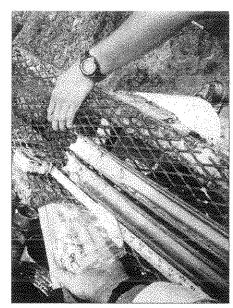
COREBORING PHOTOGRAPHS

L30 Seepage Management Pilot Project Miami-Dade County, Florida

WOLF/WPC Project No.: WPC6208.D0036



CP07-L30PP-CB-0007 Sample 5



CP07-L30PP-CB-0007 Sample 8

CP07-L30PP-CB-0007 Sample 7

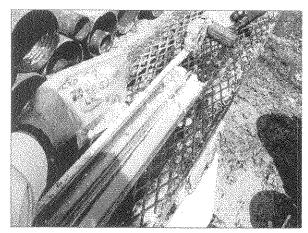


COREBORING PHOTOGRAPHS L30 Seepage Management Pilot Project Miami-Dade County, Florida

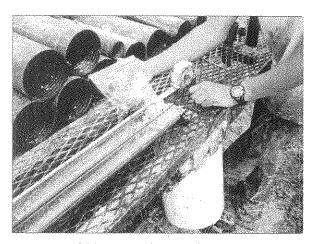
WOLF/WPC Project No.: Date: VPC6208.00036 12/03/08

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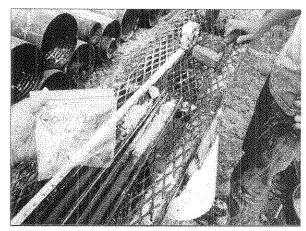
FILE CORRUPTED



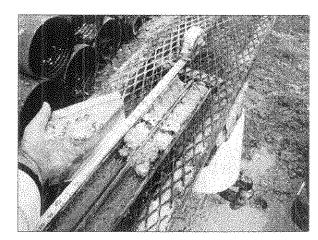
CP07-L30PP-C8-0007 Sample 9



CP07-L30PP-CB-0007 Sample 11



CP07-L30PP-CB-0007 Sample 10



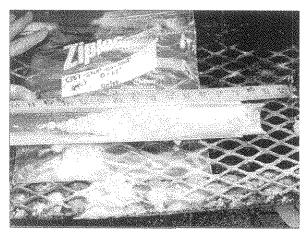
CP07-L30PP-CB-0007 Sample 12



L30 Seepage Management Pilot Project
Miami-Dade County, Florida

WOLF/WPC Project No.: WPC6208.00036

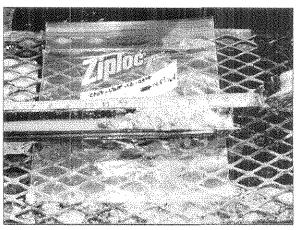
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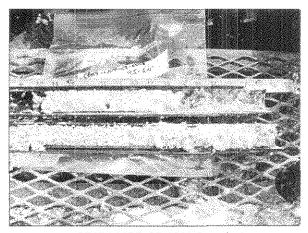
CP07-L30PP-CB-0008 Sample 1

FILE CORRUPTED

CP07-L30PP-CB-0008 Sample 3



CP07-L30PP-CB-0008 Sample 2



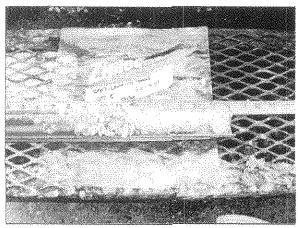
CP07-L30PP-CB-0008 Sample 4



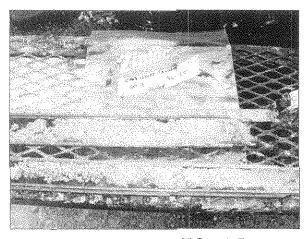
COREBORING PHOTOGRAPHS

L30 Seepage Management Pilot Project
Miami-Dade County, Florida

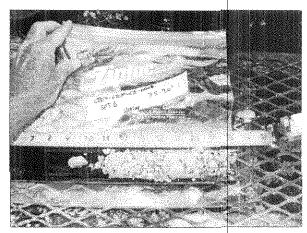
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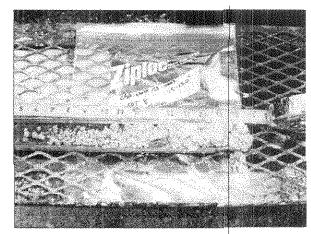
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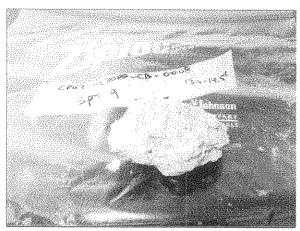
Engineering, Environmental. & Construction Services

COREBORING PHOTOGRAPHS

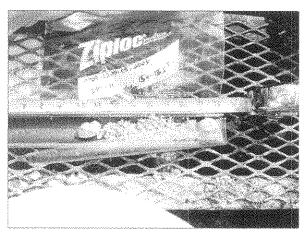
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Miami-Dade County, Florida

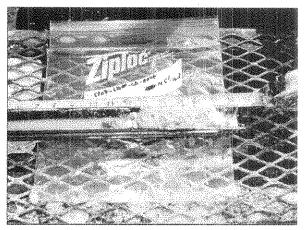
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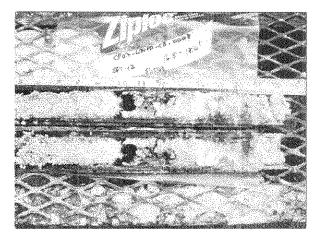
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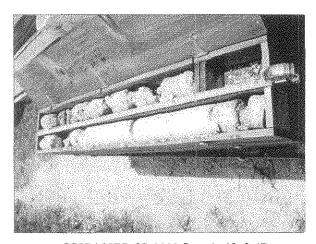


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Miami-Dade County, Florida

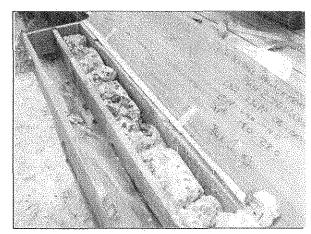
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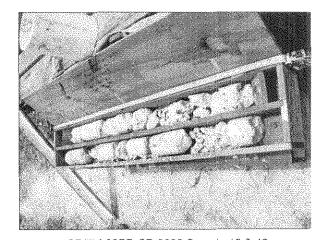
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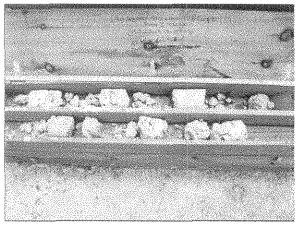


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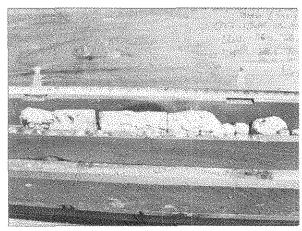
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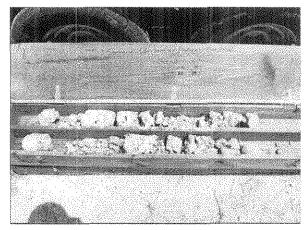
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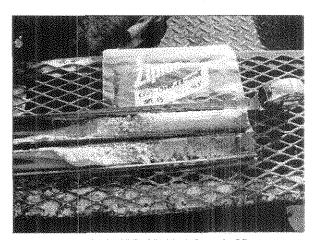
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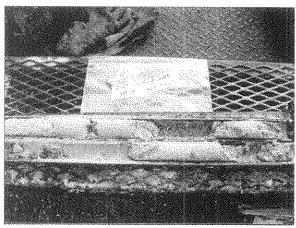


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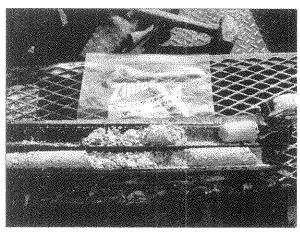


L30 Seepage Management Pilot Project
Miami-Dade County, Florida

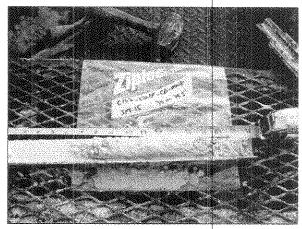
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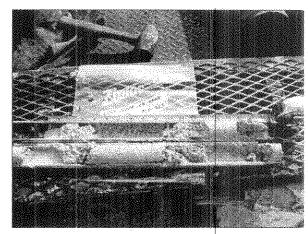
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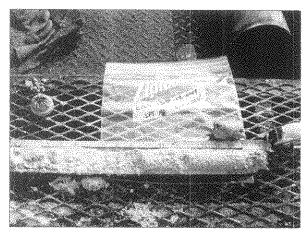


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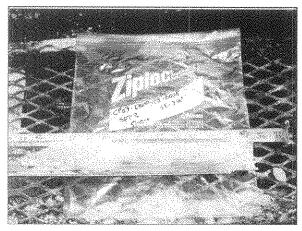


L30 Seepage Management Pilot Project
Miami-Dade County, Florida

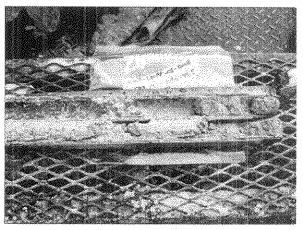
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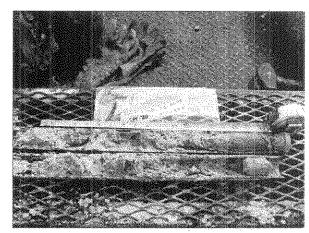
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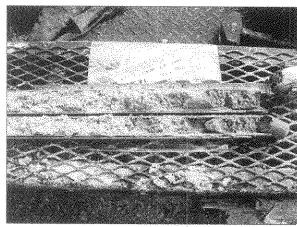
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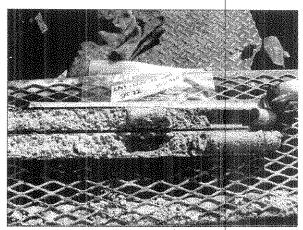
L30 Seepage Management Pilot Project

Miami-Dade County, Florida

WOLF/WPC Project No.: WPC6208.00036



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CP07-L30PP-CB-0008 Sample 35



Engineering Environmental & Construction Services

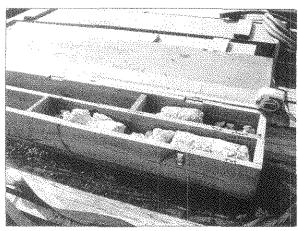
COREBORING PHOTOGRAPHS

L30 Seepage Management Pilot Project
Miami-Dade County, Florida

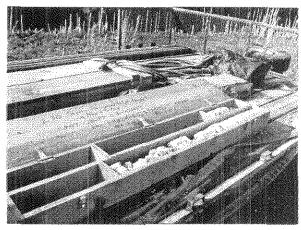
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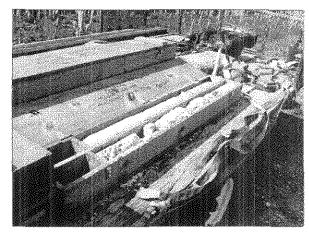
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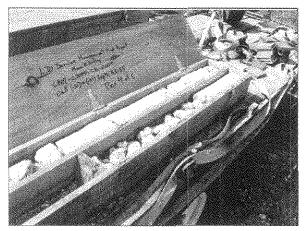


COREBORING PHOTOGRAPHS

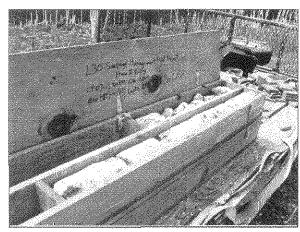
L30 Seepage Management Pilot Project

Miami-Dade County, Florida

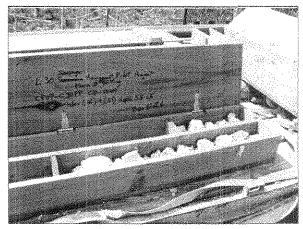
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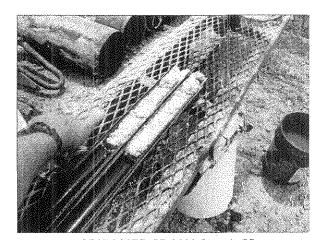
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CP07-L30PP-CB-0009 Sample 23 & 24



CP07-L30PP-CB-0009 Sample 21 & 22

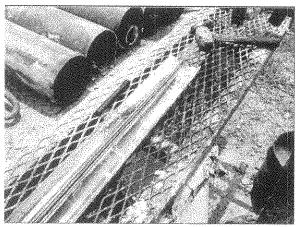


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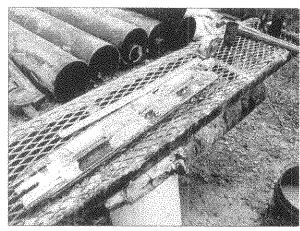


L30 Seepage Management Pilot Project
Miami-Dade County, Florida

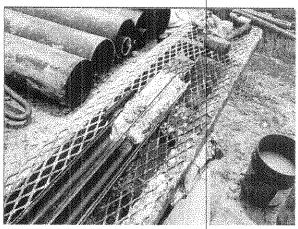
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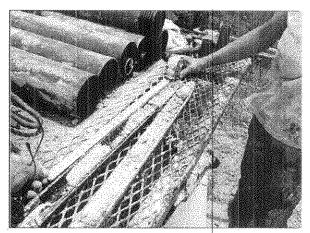
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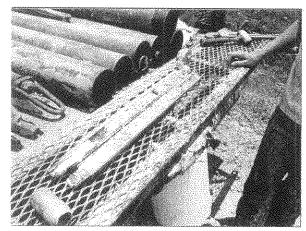


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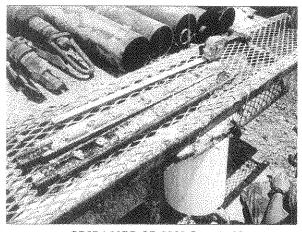
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L30 Seepage Management Pilot Project
Miami-Dade County, Florida

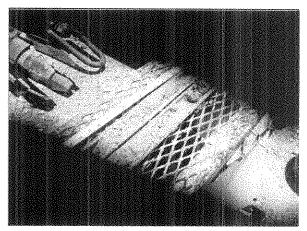
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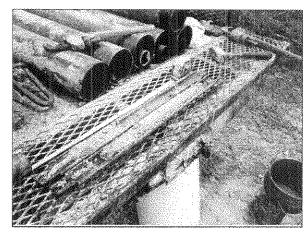
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GP07-L30PP-CB-0009 Sample 32



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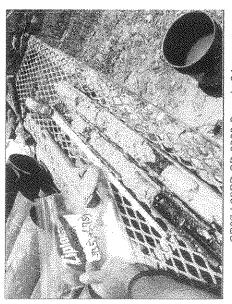


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L30 Seepage Management Pilot Project
Miami-Dade County, Florida

WOLF/WPC Project No.: WPC6208.00036



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CONSTRUCTION NEW CLES

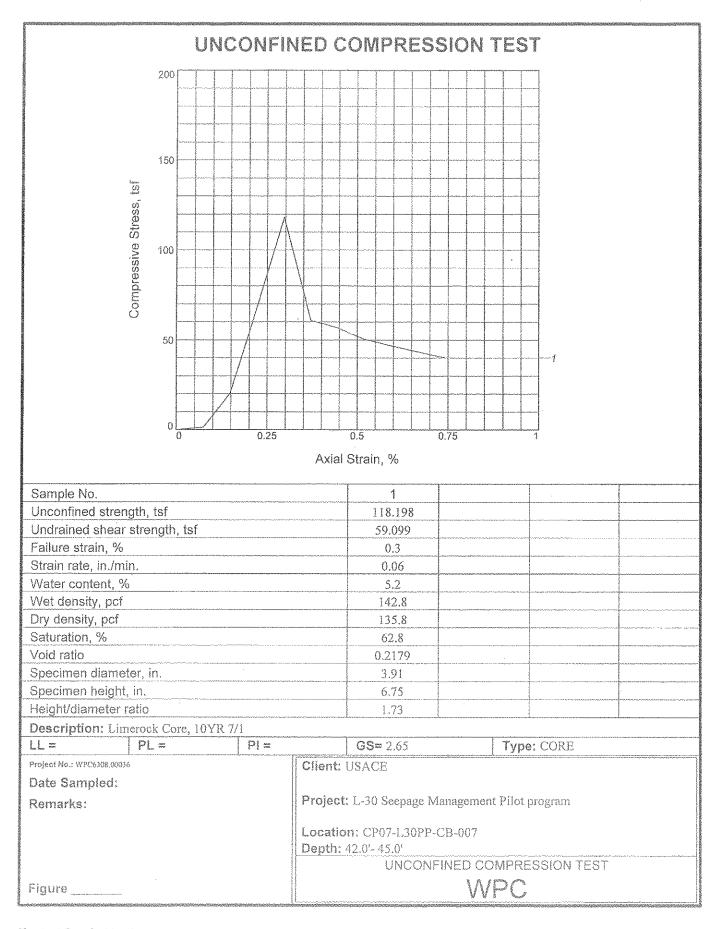
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L30 Seepage Management Pilot Project Miami-Dade County, Florida

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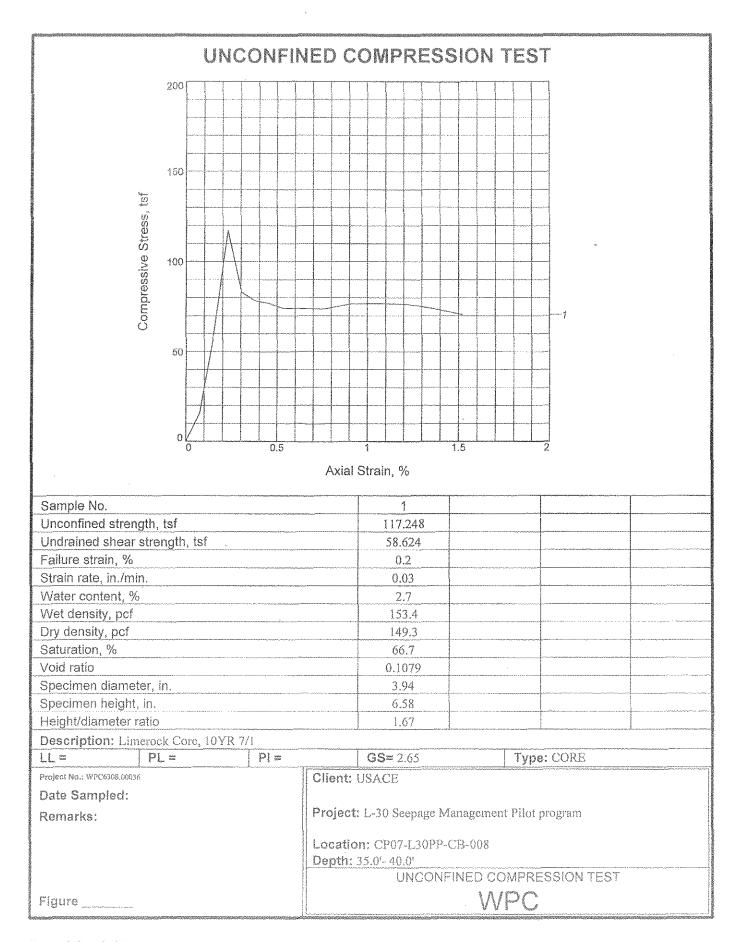
APPENDIX C

• Summary of Laboratory Test Results

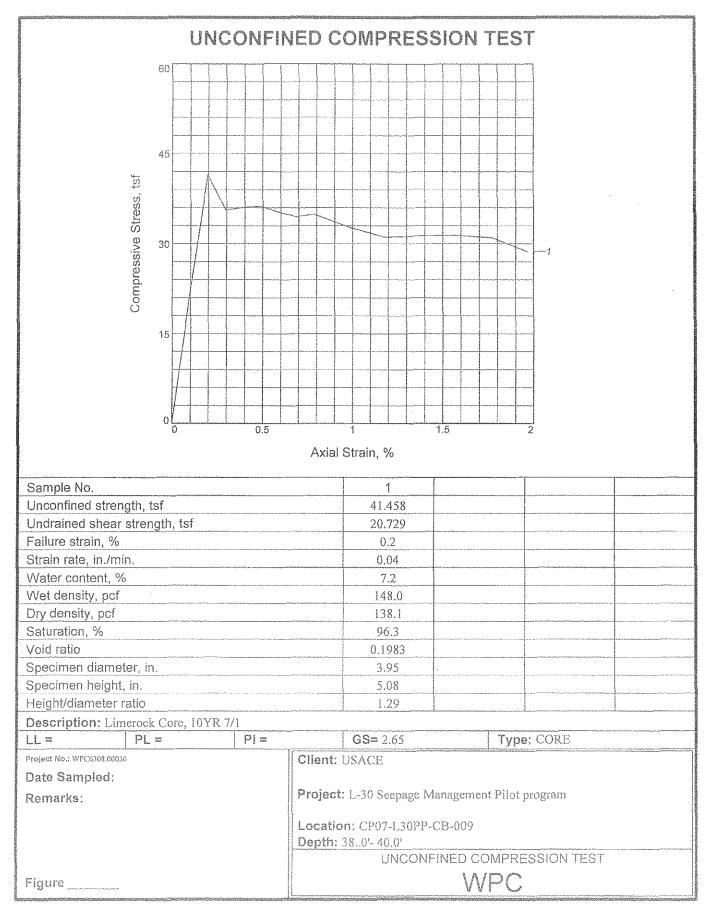




Tested By: C. Martin



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SPECIALIZING IN SOILS EXPLORATION, PHYSICAL TESTING, ENGINEERING AND NDT EXAMINATION SERVICES



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FAX: (251) 666-1438
EMAIL: CHAILENGETESTING@ACL.COM

FINAL REPORT L-30 SEEPAGE MANAGEMENT PILOT PROJECT WATER CONSERVATION AREA 3B MIAMI-DADE COUNTY, FLORIDA

Contract # W912EP-05-D-0010
Delivery Order # 0003
Challenge Engineering & Testing, Inc.

Prepared For:

U.S. Army Corps of Engineers – Jacksonville District
Geotechnical Branch
701 San Marco Boulevard
Jacksonville, Florida 32207

Submitted By:

Challenge Engineering & Testing, Inc. 4234 Halls Mill Road Mobile, Alabama 36691

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- IV. CORE BORING LOGS

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- VI. CORE BOX INVENTORY & REPORTS
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PURPOSE OF PROJECT

The U.S. Army Corps of Engineers is interested in determining the type, nature, and characteristics of lithological units that include the Biscayne Aquifer and the extent and conditions of the various materials as they exist to the depths at each of the locations specified.

The purpose of the L-30 Seepage Management Pilot Project (SMPP) is to address seepage management issues along the L-30 Canal related to the onset of other Comprehensive Everglades Restoration Plan (CERP) projects within the next five years.

The Pilot project is being conducted to provide information to determine the appropriate amount of wet season groundwater flow to return to the Everglades National Park (ENP) while minimizing potential impacts to the Miami-Dade West Well field and freshwater flows to Biscayne Bay.

This project is located west of Miami, Florida, northwest of the Tamiami Trail (US41) and Krome Avenue (Route 997). Work was performed along the top to the L-30 Canal Levee which runs mainly north-south and makes a 45 degree southwesterly departure from Krome Avenue toward the Tamiami Trail, commonly known as the "L-30 Triangle."

Challenge Engineering & Testing, Inc. of Mobile, Alabama was requested to assist the Jacksonville District of The U.S. Army Corps of Engineers on this contract.

SCOPE OF WORK

The scope of work consisted of performing in the upland (landside along top of L-30 levee) and in the freshwater wetland environment of the Water Conservation Area 3B the following:

- Core Drilling
- Wireline Core & Splitspoon Sampling
- Installation of Groundwater Monitoring Wells

Authorization to proceed with the requested tasks was issued on September 18th, 2006, Contract #W912EP-05-D-0010 – Delivery Order #0003 by the U.S. Army Corps of Engineers – Jacksonville District.

Field work was requested to be completed by November 19, 2006 for this assignment order.

PROCEDURES AND PROJECT SPECIFICATIONS

This report presents the procedures as followed for the borehole location, soil sampling and the classification of each respective soil sample in conjunction with special notes as recorded regarding conditions encountered in the field.

U.S. Army Corps of Engineer Standard Boring Log Forms 1836 are completed for each core boring performed in the designated location as generated with the Geotechnical Integrator "gINT" Software Program and script/library files as furnished by the Jacksonville District.

Drilling techniques and equipment were in general accordance with the prescribed technical provisions as stated in the Department of the Army Engineering Manual EM-1110-2-1907, "Soil Sampling" Publication.

FIELD WORK PERFORMED

PHASE I: TOP OF L-30 LEVEE LANDSIDE CORE BORINGS / WELL INSTALLATION

The landside well drilling phase of work on this project consisted of performing numerous tasks along the top of the L-30 Levee in designated test locations.

Boreholes were located utilizing the x-y coordinates as furnished by the Jacksonville District of the U.S. Army Corps of Engineers and converted by Corpscon to latitude/longitude for GPS location.

Three (3) borings were designated to be located along the top of the levee in the center of the roadway.

In each of the locations the following tasks were performed:

- Large diameter (10") roller bit was used to drill through the levee to top of rock
- PVC (8") surface casing set to top of rock
- Wireline rock coring was commenced with a five foot 4" x 5 ½" core barrel to the base of the rock formation with fresh water
- Boreholes were reamed with a seven and one-half inch (7.5") bit
- Boreholes developed for a period of three (3) hours with compressed air
- U.S. Geological Survey was notified of field progress
- Boreholes were allowed to remain for a minimum of 72 hours
- Borehole logging was performed by U.S.G.S.
- After approximately 7 days, drillcrew returned to perform continuous splitspoon sampling for an additional 30 feet
- Boreholes were backfilled with gravel and crushed limestone

(3)

The rig used on this project was a CME-55 four (4) wheel drive truck mounted hydraulic drill unit equipped with a standard manual 140 lb. splitspoon drive hammer and a Moyno reciprocating cavity unit pump.

Groundwater monitoring wells were installed approximately 10 ft. from each of the large diameter boreholes along the backside (south-canal)) top of levee. The construction consisted of two (2) inch diameter schedule 40 Johnson threaded joint "Tri-Lock" PVC installed with two (2) feet of 0.060" slotted screen.

Pea gravel backfill was used to fill the annulus around the screen.

A seal of 3/8" bentonite pellets was placed above the pea gravel. The remaining borehole annulus was backfilled with crushed limestone and gravel to the surface.

Flush mount security covers were completed encased in a three (3) foot by three (3) foot concrete pad. Locking top caps were placed on the well pipe.

The base of the Fort Thompson Formation was noted for each of the borings and reported in the below table. Splitspoon sampling was conducted for thirty (30) feet in the Pinecrest Sands below the Ft. Thompson Formation.

The computed horizontal coordinates for each of the borings to Florida East – NAD 83 State Plane Coordinates and vertical elevations to NAVD 1988 are reported as follows:

BORING/WELL DRILLING TEST LOCATIONS

NAD 1983 Florida East		Elevation	Base of
Northing	Easting	(Ft.)	Ft. Thompson
524279	826073	17.27	- 57.7
522044	823753	17.49	- 62.5
519743	821358	17.19	- 57.1
	T	op of Casing	9
524270	826074	17.12	
522036	823753	17.10	
519734	821356	16.87	
	524279 522044 519743 524270 522036	Northing Easting 524279 826073 522044 823753 519743 821358 To 524270 826074 522036 823753	Northing Easting (Ft.) 524279 826073 17.27 522044 823753 17.49 519743 821358 17.19 Top of Casing 524270 826074 17.12 522036 823753 17.10

PHASE II: WATER CONSERVATION AREA 3B FRESHWATER WETLAND WELLS

Two (2) locations in the WCA3B were designated for monitoring wells and platforms to be constructed

Each site was drilled to termination depth with an amphibious track mounted drill setup. The wells were constructed and developed in the same manner as described above for the upland L-30 levee.

Surface casing consisted of installing six (6) inch schedule 80 PVC casing around the well and strapped to a four legged 2" galvanized steel pipe platform with a 48" treated wooden work deck

WELL DRILLING TEST LOCATIONS

Boring/Well Number	NAD 1983 Northing	Florida East Easting	Top Of Casing
were near your sales hade hade near soles once soles near near near near near near near near	et your von zont hos one min oue man and man have ann ann ann	also which and ages upon your exact area good traps great ages.	. Here shall shad upon your more upon that your most want than
CP06-L30PP-MW-0004	526589	821601	12.00
CP06-L30PP-MW-0005	528482	824038	13.55

WELL DEVELOPMENT

The large diameter seven and one-half (7.5) inch boreholes were developed by insertion of tremmie pipe to the base of the reamed boreholes and using compressed air as supplied by a portable 185 CFM compressor to lift and blow out water and debris from boreholes. Each was developed for a period of a minimum of three (3) hours as the well was noted to produce "clear water".

Air bubbles were noted to be present rising to the surface waters on both sides of the levee for a distance of up to 105 feet from the well for a period of time of at least 20 minutes following development.

Each of the two (2) inch permanent groundwater monitoring wells was developed by pumping and surging until "clear" water was produced.

As per project specifications, an inventory of core boxes as prepared in the gINT format was submitted to Mrs. Karen Pitchford. The samples were placed in labeled wooden core boxes and delivered to the Corps of Engineer Warehouse on Talleyrand Avenue in Jacksonville, Florida on November 8, 2006. The core boxes were verified received by Mr. Mark Whitson and Dr. June Mirecki of the U.S. Army Corps of Engineers.

REPORT SUBMITTALS

The field boring logs, visual classifications and test results were all entered into the Geotechnical Integrator (gINT) software format as designed by the Jacksonville District which is presented as part of this report.

(5)

Digital project photographs were taken throughout the duration of the field work to document progress. Some the photographs are found attached as part of this report to include completed well installations.

Monitoring well construction diagrams are completed for each well.

FIELD EXPLORATION SUMMARY CONCLUSION

Coordination of field activities was conducted with Mr. Keith Price, Miami Field Office of the South Florida Water Management District during the term of this project.

During the field work on this project, coordination and updates were provided to Mr. Kevin Cunningham of the U.S. Geological Survey and U.S. Army Corps of Engineers Project Geologist Dr. June Mirecki of the Jacksonville District.

A special work permit was secured by Challenge Engineering Testing, Inc, through the Florida Fish and Wildlife Conservation Commission to work in the area due to excessive high water and public usage restrictions.

Challenge Engineering & Testing, Inc. has made every attempt to conduct this field project according to the project specifications and at the direction & satisfaction of all parties involved

REPORT INVESTIGATION LIMITATIONS

The core borings, installation of the groundwater monitoring wells, analyses and recommendations submitted in this preliminary report are based on the data obtained from the field explorations performed at the locations depicted on the site plan. These locations were chosen by the U.S. Army Corps of Engineers, Jacksonville District. The area explored is limited to the depth and diameter of the core borings. This report does not reflect any variations which may occur adjacent to or between the core borings. The nature and extent of the variations between the borings may not become evident until during future excavations or construction in the area.

This report is based on relatively shallow explorations and a scope of work determined solely by the Corps of Engineers. This report does not include an evaluation of the environmental (ecological or hazardous/toxic material related) condition of the site and subsurface.

(6)

This report has been prepared for the exclusive use of the U.S. Army Corps of Engineers in accordance with generally accepted soil and foundation engineering practices.

It has been our pleasure for Challenge Engineering & Testing, Inc. to provide the U.S. Army Corps of Engineers – Jacksonville District our geotechnical engineering testing services on this project along the L-30 Levee & in the Water Conservation Area 3B.

I trust that you will find this submittal to be in general conformance with the project guidelines and specifications.

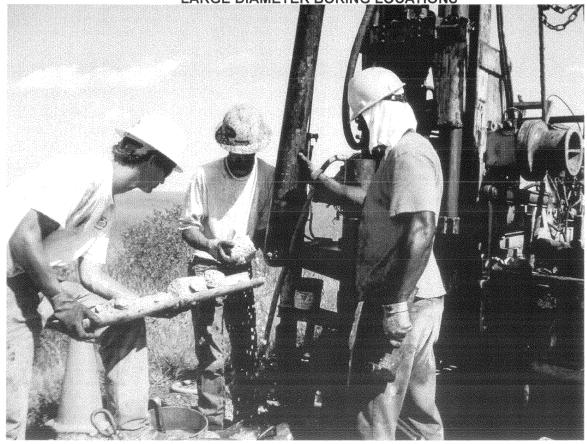
Respectfully Submitted,
Challenge Engineering & Testing, Inc.

V. J. Thompson III, P.E. Florida Registration # 37610

REFERENCE PROJECT PHOTOGRAPHS



8" SURFACE PVC CASING WAS SET AT EACH OF THE LARGE DIAMETER BORING LOCATIONS



4" WIRELINE CORING SYSTEM USED TO SAMPLE TO ROCK



7.5" OPEN BOREHOLES BEING AIR LIFTED WITH COMPRESSOR FOR 3 HOURS EACH PRIOR TO BEING LOGGED BY THE U.S.G.S.



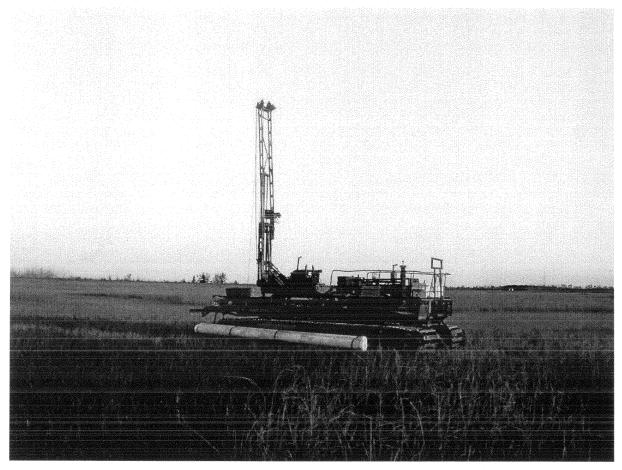
AIR BUBBLES WERE NOTED TO BE PRESENT ON BOTH SIDES OF THE LEVEE UP TO 105 FT. FROM BOREHOLES 10 MINUTES AFTER COMPRESSOR SHUTDOWN



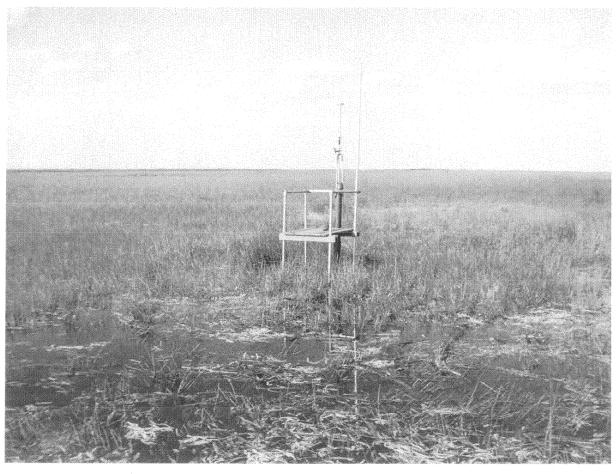
FLUSH MOUNT MONITORING WELL PADS CONSTRUCTED ON TOP OF L-30.
GPS POSITIONING CONDUCTED ON WELL CASING



COMPLETED FLUSH MOUNT WELL PAD ON SOUTHSIDE OF L-30 WITH BOLTDOWN MANHOLE COVER

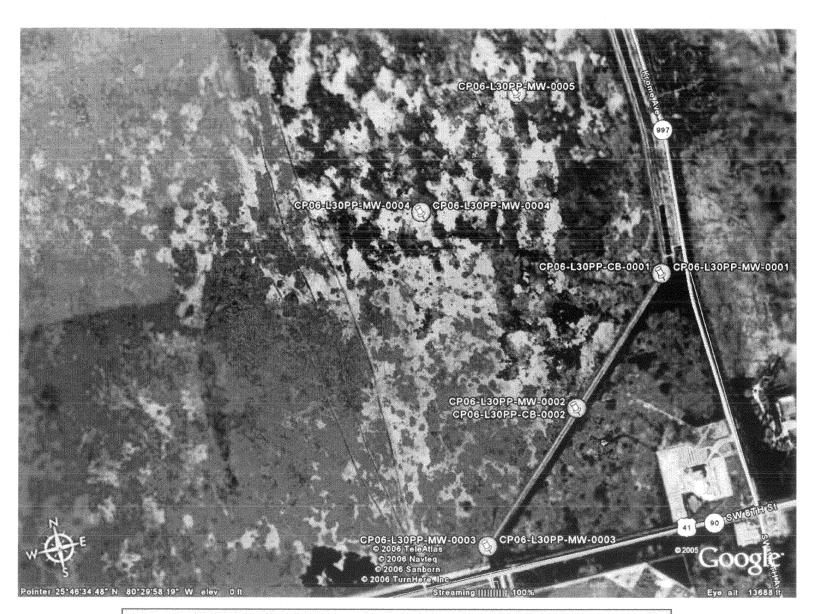


ATV SWAMP MOUNTED DRILL BUGGY ON-SITE



MONITORING WELL PLATFORM

BORING LOCATION MAP



LOCATION OF CORE BORINGS AND MONITORING WELLS
L-30 SEEPAGE MANAGEMENT PILOT PROJECT
DADE COUNTY, FLORIDA

SOILS TEST CORE BORING NUMBER "CP06-L30PP-CB-0002"

Miami-Dade County, Florida

DRI	LLING	LOG	DIVIS	outh Atlantic			8		SONV	אכ ille Di	istrict		SHEET 1	EETS
PRO	JECT		1 30	our rualitio			nganouscous	-		-		ee Remarks	1 30	
L	-30 Seepa	ge Mar	nagemer	nt Pilot Projec	it.		L	NO CONTRACTOR OF THE PARTY OF T		***********	SYSTEM/DATUM		VERTICAL	**************************************
Т	op Of Leve	ee L-30	(Center	of Roadway)						ne, FLE (U.S. Ft		NAVD8	8
	ING DESIG			LOCATION			11.	MA			RER'S DESIGNAT	Secund	AUTO HAMME	
	CP06-L30P		1002	X = 823		Y = 522,044 RACTOR FILE NO.	+-		CME	_ 55	Truckrig		MANUAL HAN	on the second second
C	Challenge E	nginee	ring & T	esting, Inc.	1	06D30	12.	то	TAL S	SAMPI	LES	33	0	
	NE OF DRILL						13.	то	TAL I	NUMB	ER CORE BOXES	4		***************************************
. DIRE	ECTION OF		i	DEG. FRO	M	BEARING	14.	ELI	EVAT	ION G	ROUND WATER	5.0 Ft.		
	VERTICAL INCLINED			VERTICAL	-	# # # # # # # # # # # # # # # # # # #	15.	DA	TE B	ORING	•	STARTED 10-06-06	10-17-0	
. THIC	CKNESS OF	OVERB	URDEN	N/A			16.	ELI	EVAT	ION T	OP OF BORING	17.5 Ft.		
. DEP	TH DRILLE	INTO I	ROCK	N/A							VERY FOR BORIN			MATERIA
. ТОТ	AL DEPTH	OF BORI	NG '	109.0 Ft.			18.				ND TITLE OF INS			
		Y		100.01 t.	eren en e		┸┯		MANUSCON CO.	Section of the Parket	berger, Geolog	IST		ш
LEV.	DEPTH	LEGEND	(CLASSIFICATI	ON OF	MATERIALS	Sign State of the	ιέc.	BOX OR SAMPLE	RQD OR UD		REMARKS	BLOWS	N-VALUE
17.5	0.0				-						17.5			
	<u> </u>		L-30 Le	vee Fill Mate	IIdi		-							
	-						41-980-0-04000	-						
	_						***************************************	No.						
	-													
	-						and the same							-
	-						2000000							
	_						***************************************							
							rincincine de la constante de							name of the last o
	_													
	_						drones							-
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							Militar							Glasses Contract
							-							
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							and the same of th							
							000000000000000000000000000000000000000	0.000				Advanced Borin w/ tricone roller	g	
	guer Grabesh											w tricone roller	DIL	economic and a seconomic and a
	-						- Constant							***************************************
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	enteren .						- Contraction	00000000						
	-						- Newson							
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l							APPROXIMENT OF	New York						entral administra
							SCHOOLSES	vinettiett pen						*
dinopahan	-						posteropour	sequinacettea						*
i	nav Dan						HENNANGER	ne de la constante de la const						Table 1
o de la constante de la consta							emonosied	contravent						Vanadas) Printer
dreuschou	_						Ā	oosepateless						
andrewegh	-						revelocitations	District						*
out of the same							NAME OF TAXABLE PARTY.	description						
de	-						BRANCO COLOR	dienviseigne						
	Makes Inc.					4	- Annie Constant	angai siyaagaa						
ļ	No.					*	nhammodame	Memorrowaled						
2	en.	KXXX					-	-						1
	ORM 183						-	mound	non-transported			(Continued)		apronouncem

DRI	ILLING	LOC	G (Cont. Sheet)	INSTALLA Jackso		Dietr	ict	The service of the se	SHEET 2 OF 7 SI	HEETS
PROJEC				COORDINA	OCONOMICS CO.	CONTRACTOR DE LA CONTRA	SPECIFICATION CONTRACT	UM HORIZONTAL	VERTICAL	
L-30	Seepage	Manaç	gement Pilot Project	State P	lane,	FLE	(U.S.	. Ft.) NAD83	NAVD88	
LOCATIO	ON COORD	INATES		ELEVATIO	N TOP	OF B	ORIN	G		
X = 8	823,753	Y = 5	22,044	17.5 Ft						APPENDICATION COLUMN
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIAL	LS	REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 0.5 FT.	N-VALUE
				en e				Advanced Bo w/ tricone rol		ANTIGORAL DE CONTRACTOR DE CON
0.2	17.3	XXX TTT	LIMESTONE, oolitic, sparsely fossili	ferous,				0.2		
2.5	20.0		soft, moderately weathered, fine-gra thin bedding, vuggy, Ft. Thompson Formation, 2.5Y 8/2 pale yellow	ined,		alexan	RQD 20	HP = 250 p DFR = 50	ns osi	теленендення меження м
-2.5	20.0		LIMESTONE, hard, moderately wea fine-grained, thick bedding, pitted, 5Y 8/1 white	thered,				-2.5		
-5,5	23.0		At El4.0 Ft., 5Y 7/3 pale yellow		100	2	RQD 85		ns osi	Contact the state of the state
0,0			LIMESTONE, fossiliferous, moderate slightly weathered, aphanitic, thick boungy, 5Y 8/2 pale yellow		Province and a control of the second control of the	BOX 1		DFR = 25	7 6	
-12.5	30.0		At El9.5 Ft., thin bedding, 5Y 8/1 v	vhite	60	33	RQD 10	4 x 5-1/2" Diamond Im DT = 3 mir HP = 250 p DFR = 0 9	ns osi	
-14.5	32.0		SAND, silty, soft, mostly subangular fine-grained sand-sized carbonate, s reaction with HCl, wet, 2.5Y 8/2 pale (SM)	yellow					prognated Dif	
	Moderately Weathered		LIMESTONE, fossiliferous, moderate moderately weathered, fine-grained, bedding, vuggy, 5Y 8/1 white		60	BQX 2	RQD 0	4 x 5-1/2" Diamond Im DT = 4 mir HP = 250 r DFR = 0 %	ns vsi	Opini manika pama periode peri
	2	LITT	At El17.0 Ft., 5Y 6/4 pale olive							

DR	ILLING	LOC	G (Cont. Sheet)	INSTALLATION Jacksonville District OF 7 SHEET:									
PROJEC	CT			COORDINATE SYSTEM/DATUM HORIZONTAL VERTICAL									
L-30	Seepage	Mana	gement Pilot Project	State P	lane,	FLE	(U.S.	Ft.)	NAD	33	NAVI	880	
	ON COORD			ELEVATION TOP OF BORING									
X = 1	823,753	Y = 5	22,044	17.5 Ft.									NACONAL PROPERTY OF THE PARTY O
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIA	LS	RÉC.	BOX OR SAMPLE	RQD OR UD			REMARKS		81.0WS/ 0.5 FT.	N-VALUE
estalminus trimes considered.	Moderately Weathered		From El20.5 to -31.5 Ft., unweath aphanitic, thin bedding, pitted, 5Y 8/	ered, 1 white	60	5	RQD 25	-22.5	× 5-1/2" [Diamond Im DT = 3 min HP = 250 p DFR = 0 %	si	l Bit	
					60	ВДХ	RQD 0	4	x 5-1/2" l	Diamond Im DT = 5 mir HP = 250 p DFR = 0 %	is isi	d Bit	
	Unweathered		From El31.5 to -37.5 Ft., soft, unweathered, aphanitic, thin beddin clay filled pits	g, pitted,		7	RQD	4	↓x 5-1/2"	Diamond Im DT = 5 mir HP = 250 p DFR = 0 %	ns osi	d Bit	ден ден желе по при
	Jaweshered					BQX	RQD 25	4	1 × 5-1/2"	Diamond Im DT = 6 mir HP = 250 p DFR = 0 %	ns osi	d Bit	

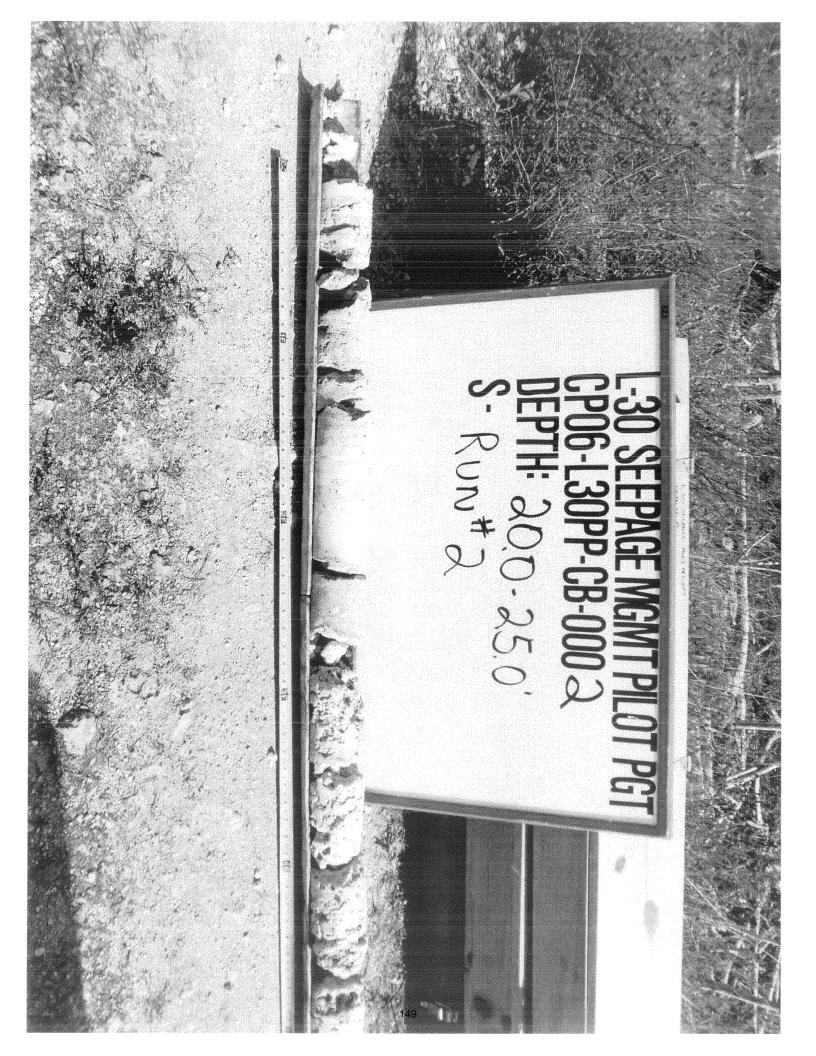
DR	ILLING	LOC	G (Cont. Sheet)	INSTALLA Jackso		Distr	íct				SHEET OF 7	4 SHEETS
ROJE	et .			COORDINA			550000000000000000000000000000000000000	VM I	HORIZO	NTAL.	VERTICAL	
L-30	Seepage I	Manag	gement Pilot Project	State F	lane,	FLE	(U.S.	Ft.)	NAD	83	NAVD88	
OCATI	ON COORDI	NATE:	S	ELEVATIO	N TOP	OF	ORIN	G				
X =	823,753	Y = 5	22,044	17.5 Ft		T						entransario proposicio de la composicio della composicio de la composicio della composicio della composicio
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIA	ıLS	REC.	BOX OR SAMPLE	RQD OR UD			REMARKS	BLOWS/ 0.5 FT.	N-VALUE
	Unweathered Mod. Weathered		From El37.5 to -39.5 Ft., moderat moderately weathered, aphanitic, the bedding, vuggy, 5Y 7/2 light gray From El39.5 to -43.5 Ft., soft, unweathered, aphanitic, thin beddir clay filled pits, 5Y 8/1 white	in			RQD 0	4 x -42.5	5-1/2"	Diamond Imp DT = 4 min HP = 250 p DFR = 0 %	si	
			From El43.5 to -46.0 Ft., moderat moderately weathered, aphanitic, the bedding, vuggy, sand filled vugs, 5 yellow From El46.0 to -51.5 Ft., moderat weathered, aphanitic, thin bedding, clay filled pits, 10YR 7/2 light gray	nín Y 7/3 pale		вдх	RQD 0	4 x	5-1/2"	Diamond Im ₁ DT = 6 min HP = 250 p DFR = 0 %	si	
	рорж, неприумска језиродом		From El51.5 to -55.5 Ft., unweath aphanitic, medium bedding, vuggy, filled vugs, 10YR 8/2 very pale brov	sand		Account of the contract of the	RQD 8	4 x	5-1/2"	Diamond Im _I DT = 6 min HP = 250 p DFR = 0 %	si	
	Mod. Weathered		From El55.5 to -57.5 Ft., moderat weathered, fine-grained, thick bedd pitted, sand filled pits, 2.5Y 6/1 gray	tely ing,	90	BOX	RQD 60	4 x	5-1/2"	Diamond Im; DT = 3 min HP = 250 p DFR = 0 %	sí	

DR	LLING	LO	G (Cont. Sheet)	INSTALLA Jackso		Distr	ict			8	HEET 5 F 7 SH	EETS
PROJEC	т	***************************************		COORDINA				UM	HORIZONTAL	VERTIC	AL	ON STREET, STR
L-30	Seepage	Mana	gement Pilot Project	State F	lane,	FLE	(U.S.	. Ft.)	NAD83	NA\	/D88	
	ON COORD			ELEVATIO		OFB	ORIN	G				
X = {	323,753	-	22,044	17.5 Ft	- -	Ţ	parament of the last of the la			NAME OF TAXABLE PARTY.		THE PERSON NAMED IN COLUMN NAM
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIA	LS	REC.	BOX OR SAMPLE	RQD OR UD		REMARKS		BLOWS/ 0.5 FT.	N-VALUE
-61.5	79.0		LIMESTONE, soft, slightly weathere aphanitic, 5Y 7/3 pale yellow	ed,	0	врх	RQD 0	-61.5	x 5-1/2" Diamond Im DT = 2 min HP = 250 p DFR = 0 %	S Si	ed Bit	
		IŢI	LIMESTONE, fossiliferous, soft, slig			T				· · · · · · · · · · · · · · · · · · ·	WOR	İ
60.5	80.0	III	weathered, aphanitic, pitted, sand fi	lled pits,	20	14			SPT Sampl	er	0	
-62.5	00.0	0 00 0	SHELL, mostly angular coarse-grain	ned					or , ourne.	-	0	0
		0 00 0	sand-sized shell up to 1/2", little clar	y, strong	-	<u> </u>		-63.0	ra v svalvitat nasuvine v li alianem na vya vu va vane nasu na svana na svana va svana svana svana svana čiviš		_	-
		0 00 0	reaction with HCI, wet, Pinecrest Sa Formation, 2.5Y 7/1 light gray	ina		-				-	7	
		0 22 2			40	15			SPT Sampl	er -	12	23
		0 00 0						-64.5			11	
		0 22 2	At El64.5 Ft., some coarse gravel limestone up to 1"	-sized							7	
		0 00 0	innestone up to 1		97	16			SPT Sampl	er -	14	
		222.2						00.0	•	-	14	28
		0000			-	-		-66.0			8	
		0 22 2							ODT O			
		0 22 2			73	17			SPT Sampl	er	17	33
		222.2						-67.5			16	
		0 22 3								_	7	
-68.5	86.0	0 00 0			100	18			SPT Sampl	er	8	100
			SAND, clayey, nonplastic, soft, mos					-69.0		~	8	16
			fine-grained sand-sized carbonate, strong reaction with HCI, wet, 2.5Y			†			elementario especial professione elementario de haberra delementario especial e especial de haber elemente ele	***************************************	12	
	072 5		gray (SC)	0	50	19			SPT Sampl	er -	14	-
-70.0	87.5	D 33 3	SHELL, mostly angular coarse-grain	ned	1 30	13			Or i Sampi	-		29
		0 00 0	sand-sized shell up to 1/4", some			-		-70.5		ennennen erken en han yntan en en	15	
		0 22 2	coarse-grained sand-sized limeston 1/2", little clay, strong reaction with		and when						12	- T
		0 00 0	2.5Y 6/1 gray	, , - 1, 11 - 1,	77	20			SPT Sampl	er -	12	26
		0 00 0						-72.0			14	
		0 00 0									14	
		0 22 2			90	21			SPT Sampl	er	8	
		0 00 0						70.5		vini	10	18
		C CC C	At El73.5 Ft., nonplastic, mostly a	ngular		 		-73.5				-
		0 00 0	medium-grained sand-sized shell up	o to 1/4",					alling delices, species with -		10	
74.5	92.0	2222	little fine to medium-grained sand-si carbonate, strong reaction with HCI		90	22	Name and Address of the Address of t		SPT Sampl	er -	8	15
		V//	\2.5Y 6/1 gray	/				-75.0			7	
		1///	CLAY, lean, medium plasticity, soft, clay, some shell up to 1/4", little fine	mostly -grained	and a second						5	-
			sand-sized carbonate, strong reaction	on with	90	23			SPT Sampl	er	7	
Dogwood		1//	HCI, wet, 2.5Y 5/1 gray (CL)			Professional Control	Description	-76.5			7	14
		V //	At El76.5 Ft., some fine-grained			<u> </u>	To the second se	-10.3			6	
		1//	sand-sized quartz, little coarse-grain	ned N UCI	90	24			SPT Sampl	er -		-
	ORM 18		sand-sized shell, strong reaction wit	HTO,	<u></u>	<u></u>	L				5	1

DR	ILLING	G (Cont. Sheet)	Jacksonville District OF 7 5									
PROJEC	T	Marini and Indiana to the Control of	ada anta sa menanda da manga kangangan kangan pengangan pengangan pengangan pengangan pengangan pengangan pengan	COORDINA				UM	HORIZONTAL	VERTICAL		Secriptory.
L-30	Seepage	Mana	gement Pilot Project	State F	lane,	FLE	(U.S.	Ft.)	NAD83	NAVD8	8	emilionie en se
	ON COORD			ELEVATIO		OFB	ORIN	G				
X = 1	323,753	-	22,044	17.5 Ft								ereninas s
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIA	LS	REG.	BOX OR SAMPLE	RQD OR UD		REMARKS	S A C	0.5 FT.	N-VALUE
			wet, 10Y 6/1 greenish gray		90	24		-78.0	SPT Samp	ler :	5	10
-78.5	96.0									1	5	***********
			SAND, silty, very soft, mostly fine-g sand-sized quartz, little silt, little	rained	67	25			SPT Samp	ler 1	5	23
			coarse-grained sand-sized shell up					-79.5			8	23
			strong reaction with HCl, wet, 10Y 7 greenish gray (SM)	//1 light					ikuga masankan papi pajai inan kilipin kini kerdika galapida paja pakehili dappan kupi pilipin menjan pada maj		7	
					47	26			SPT Samp	ler 1	4	
-81.0	98.5					-		-81.0		1	4	28
***************************************		0 22 2	SHELL, mostly angular fine to coars	se					powodykłytyczne wypolikacjo meddenją wonió najwoją don Andersymologinate session in najwoje con	реалимы осущерен оксичатериям вырамительная э	7.	
		0 22 2	fine-grained sand-sized quartz, little	sand to	90	27	NO. 100 PER PER PER PER PER PER PER PER PER PER		SPT Samp	ler 1	4	
		0 33 3	gravel-sized limestone up to 1/2", fe		* Constitution of the Cons		Personal	-82.5		AMAGAGAGAGAGA	21	35
		0000	greenish gray	Ü				-02.3			2	
		0 33 3	quartz	nd-sized	90	28	and the same of th		SPT Samp	***************************************	23	
		0 22 2	•				SALE LIBRARIO DE	04.0	G(, , , , , , , , , , , , , , , , , , ,	constructions.	21	44
		0 33 3						-84.0			2	
		0 33 3			90	29			SPT Samp	***************************************	1	
	·	0 22 2	At El85.0 Ft., some fine to mediur	n-grained	30	23			or i damp	-	9	20
		0 33 3	sand-sized quartz, trace sand to gra shell up to 3/4"					-85.5	hagianyumanonasahadridoidadassa suraynamovinaponduranidansanonasuurdahdisininidaha		5	
		0 00 0	shell up to 3/4		90				ODT Comm			
		0 22 2			90	30			SPT Samp	***************************************	-	20
		0 00 0						-87.0			0	
-87.5	105.0	5 22 2	SAND, silty, some fine-grained sand	l cizod	-	WARREN .	overence.		OPT O	*************	7	
			quartz, little fine-grained sand-sized	i	90	31			SPT Samp		23	65
			carbonate, little sand to gravel-sized to 1/2", strong reaction with HCl, we					-88.5		4	2	************
			\ 10Y 6/1 greenish gray (SM)	,	and and a second					2	27	
			At El88.5 Ft., few coarse-grained sand-sized limestone up to 1/4"		90	32			SPT Samp	ler 3	37	74
								-90.0			37	
										1	4	
					97	33			SPT Samp	ler 3	34	71.
-81.4	198.8	Щ	LIMESTONE, fossiliferous, moderat					-91.5			37	
			∖coarse-grained, pitted, clay filled pit						ammer w/30" drop us		Para Para Para Para Para Para Para Para	
			\10Y 6/1 greenish gray					2.0' spli	t spoon (1-3/8" I.D. x	2" O.D.).	nia na	
			NOTES:					Abbrevi			Per constitution of the co	
			Soils are field visually classified in accordance with the Unified Soils Classification System.	'n				DT = HP =	t = Weight of Rods. Drill Time. Hydraulic Pressure. Drill Fluid Return.			
			2. Set 17.5 Ft. of 8" Schedule 40 P' Through Center of L-30 Levee To TRock.		Nova Department of the second						na principal na la managamenta de la managamenta de la managamenta de la managamenta de la managamenta de la m	
			3. Boring Drilled/Sampled In Three A. Set Surface Casing. B. 4" Wireline Rock Coring To Base C. Splitspoon Sampling 30 Ft. Belov Rock.	Of Rock.	Vicionación de la maleción maleción de la maleción							

DRI	LLING	LOC	G (Cont. Sheet)	Jacks:		Distr	rict	INSTALLATION SHEET 7 Jacksonville District OF 7 SH								
PROJEC				COORDIN	ATE SY	/STEI	W/DAT		VERT							
DECORPORAÇÃO DE CARACTERÍA A	and the second s	MONTH OF THE PROPERTY OF THE P	gement Pilot Project	State	water the second second	INVESTIGATION OF THE PARTY OF T	UNIONE PERSONAL PROPERTY.		I NA	VD88						
	ON COORDI			ELEVATION		OFE	ORIN	G								
X = 8	23,753	T	22,044	17.5 F	STANDARD STANDARD		T		Name and Address of the State o							
ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATE		% REC.	BOX OR SAMPLE	RQD OR UD	REN	IARKS	BLOWS/ 0.5 FT.	N-VALUE					
			4. Borehole Reamed To 7.5" To Rock. USGS Performed Borehold 5. 2" Monitoring Well Set @ X = 823754 Y= 522036 Screen From -40.7 to -42.7 Ft. 6. Cored to 80 Ft. To Confirm Of 7. Boring sealed with available s	e Logging.							Z					

RUN# 7



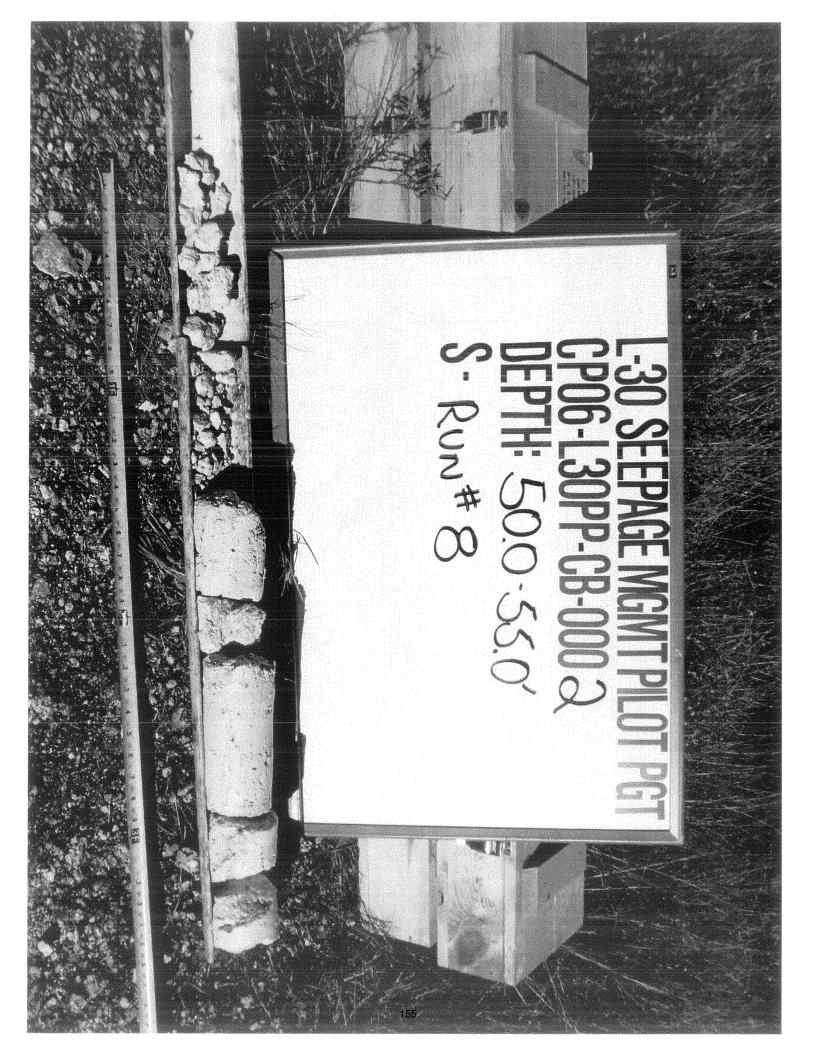
S-RUNASO-300 S-RUNASO-300

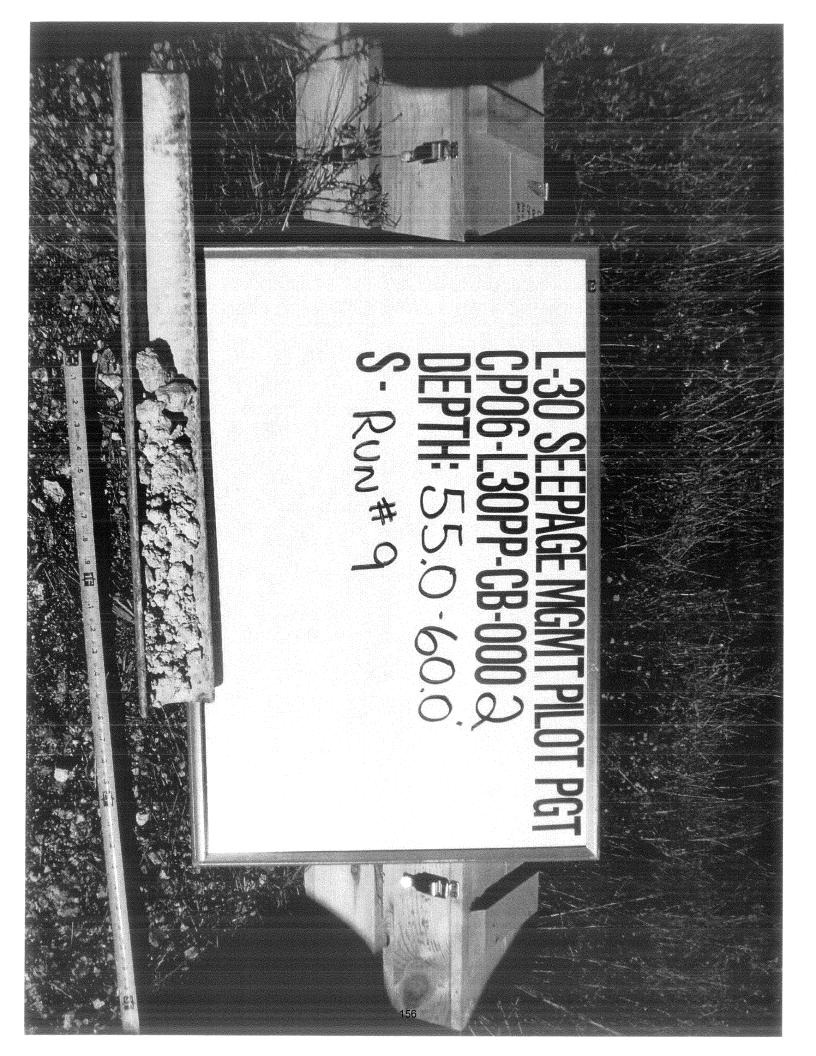
S-RUNA 4



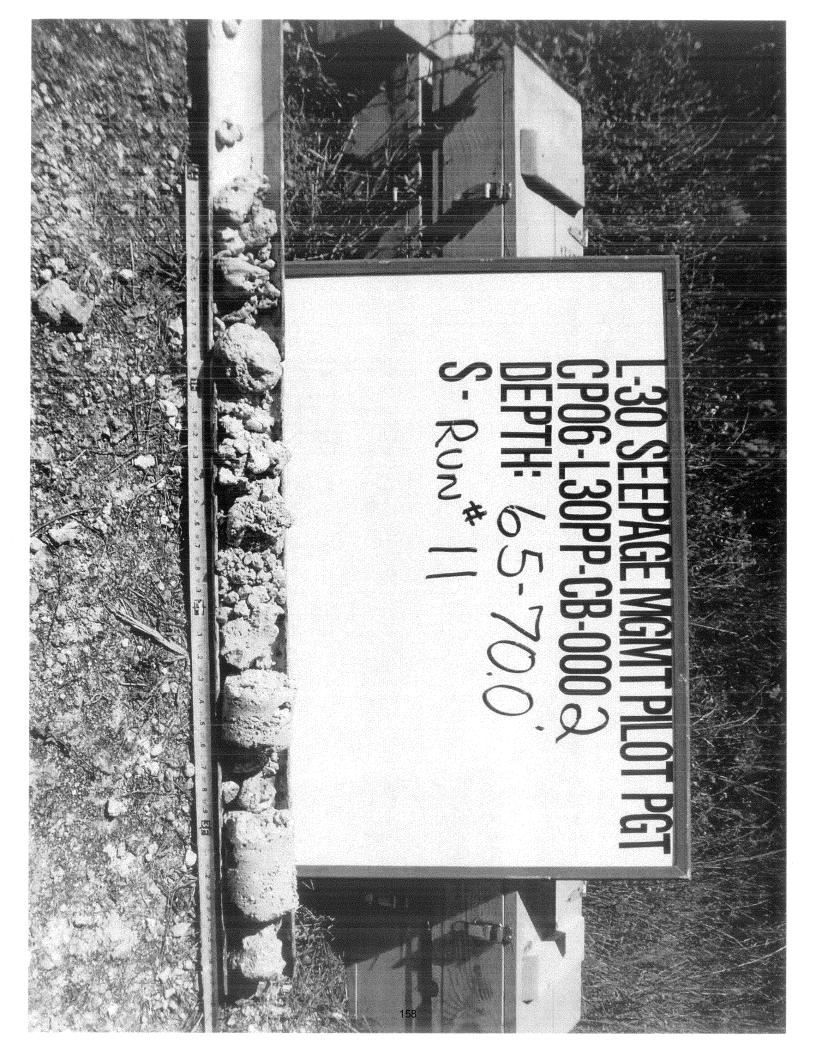


1-30 SEEPAGE MGMT PILOT PGT CP06-L30PP-CB-000 A DEPTH: 450-500 S-RUN*7





S-Run*10-65





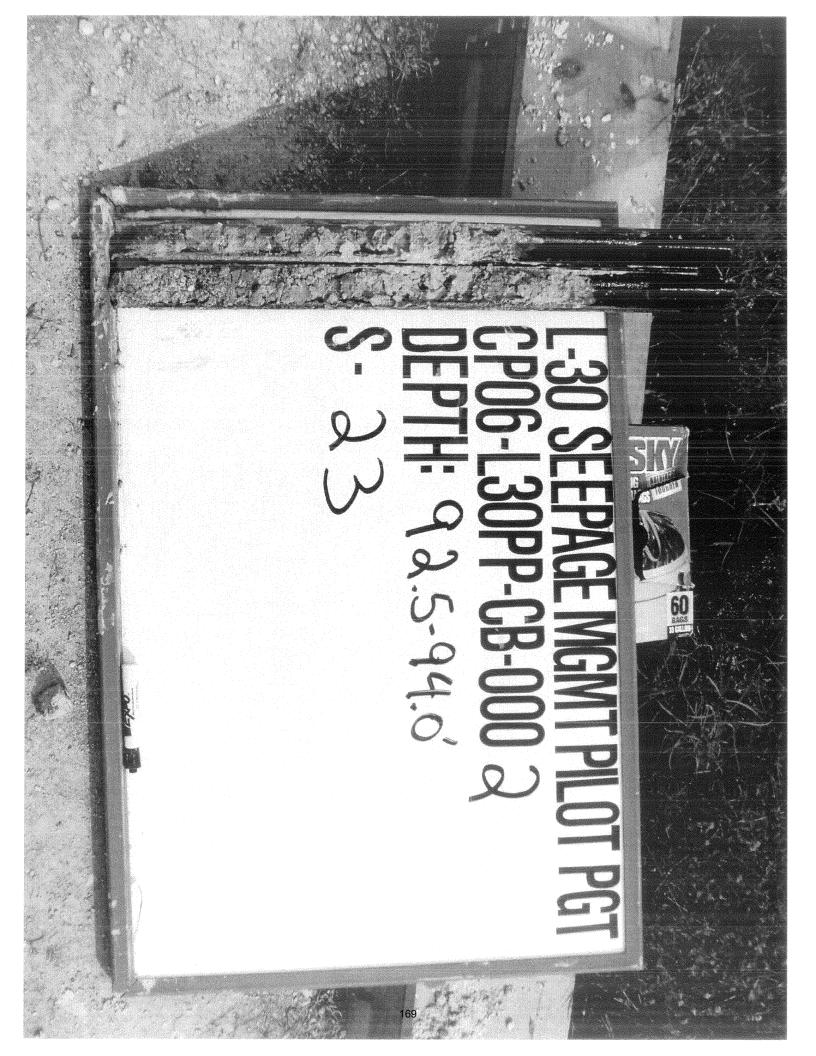
F-G-0905

82.0-83.5



PH: 86-5-880 and PILOT PGT

FPTH: 91.0-9a.5







CPUSHERWE MGMT PILOT PGT



PP-CB-000 2 PILOT PG

SPORTED SEPAGE MGMTPWOTPGT

PIESOPP-CB-000 QUE PER STATE OF CONTROL OF C